DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OGDEN AIR LOGISTICS COMPLEX (AFMC)
HILL AIR FORCE BASE, UTAH 84056

AFI21-101_AFMCSUP_OO-ALCGM2

20 June 2013

MEMORANDUM FOR OO-ALC

FROM: OO ALC/DV

SUBJECT: Ogden Air Logistics Complex (OO-ALC) Guidance Memorandum (GM) to Air Force Instruction (AFI) 21-101, Air Force Materiel Command Supplement (AFMCSUP), *Aircraft and Equipment Maintenance Management*

RELEASABILITY: There are no releasability restrictions on this publication.

1. This GM immediately implements Air Force Instruction AFI 21-101, Air Force Materiel Command Supplement, OO-ALCGM-2, *Aircraft and Equipment Maintenance Management*. This GM only applies to OO-ALC tenants located at Hill Air Force Base, Utah. Compliance with this GM is mandatory. To the extent its direction is inconsistent with other Air Force (AF) publications; the information herein prevails, in accordance with (IAW) AFI 33-360, *Publications and Forms Management*.

2. This memorandum supports Air Force Policy Directive 21-1, *Air and Space Maintenance*, and AFI 21-101, AFMCSUP1, *Aircraft and Equipment Maintenance Management*. This document applies to all units assigned or on temporary duty, to include the 309th Aircraft Maintenance and Regeneration Group (309 AMARG), or transient units associated with OO-ALC personnel performing maintenance or producing products or services, working in and around aircraft, engines, major end items, components, and support/test equipment (including personnel traveling through these areas) as specifically stated to include contractors providing service in support of OO-ALC operations.

4. Procedures unique to specific OO-ALC maintenance groups (MXG) and previously included in AFI21-101, AFMCSUP, 309MXWGM21-04, 16 March 2012 as well as earlier versions were removed. Therefore, procedures unique to any particular OO-ALC production group will not be integrated with this supplement, but rather developed as stand-alone MXG Operating Instructions (OI) where applicable. Other changes include removal of non-destructive inspection processes which are now in OO-ALCI 21-113, *Nondestructive Inspection*, and the addition of procedures for use of electronic tools and technical orders (eTools and eTechnical Orders) see Chapter 14. All chapters have been consolidated and renumbered to align with changes implemented in the AFI21-101, AFMCSUP1.

5. In advance of a rewrite of AFI21-101_AFMCSUP1, the attachment to this memorandum provides guidance changes that are effective immediately.

6. The policy in this memorandum becomes void one-year from the date of this memorandum, or upon incorporation by interim change (IC) to, or rewrite of, AFI21-101_AFMCSUP1.

HERMAN J. RAIFF, GS-15, DAF
Vice Director

Attachments
1. Additional OO-ALC Local Guidance and Instructions
2. Glossary of References and Supporting Documentation

Attachment

ADDITIONAL OO-ALC LOCAL GUIDANCE AND INSTRUCTIONS

1.8. (Added) All waiver packages pertaining to OO-ALC policies shall be fully coordinated through the OO-ALC Quality Assurance Office (OO-ALC/QP), prior to receiving OO-ALC Commander (CC) approval.

3.2.2. (Added) Establish a Quality Management System (QMS) that meets the requirements of the AS9100/9110, *Quality Management Systems*. Ensure management support of QMS at all functions and relevent levels.

8.3.30.1. (Added) MXG Quality Assurance Specialist (QAS) are aligned with the individual squadrons and maintenance functions within the group, and rotated as deemed appropriate by the group quality assurance office (QP) chief.

8.4.7. (Added) Review major and minor discrepancies for trends quarterly. If frequency or severities of identified discrepancies warrant inclusion of that item into a specific technical order (TO) governing an action or inspection, the applicable QP chief or QP lead QAS will identify the deficiency to the appropriate supervisor, who must submit an Air Force Technical Order (AFTO) Form 22, *Technical Manual Change Recommendation and Reply*, or AFMC Form 202, *Nonconforming Technical Assistance Request and Reply*.

8.9. (Added) The OO-ALC Activity Inspection Program procedures are outlined in the OO-ALC Quality Plan located at https://org.eis.afmc.af.mil/sites/309MXW/QP/309%20MXW%20Quality%20Assurance%20Plan/Forms/AllItems.aspx.

8.9.4. (Added) In addition to those directed by the OO-ALC/MXG/CC/Civilian Leader OO-ALC/QP will recommend specific follow-up inspections when warranted.

8.10. (Added) Maintenance Standardization and Evaluation Program. As the OO-ALC point of contact (POC), QP will implement, manage and execute the complex quality assurance (QA) programs.

8.23.15.1. (Added) The type (i.e., task, specific item, procedure or process) and minimum number of personnel evaluation, quality verification inspection, and routine inspection list to be conducted monthly will be included in each MXG Quality Assurance Plan (QAP) and Quality Assurance Surveillance Plan (QASP.)

8.23.16.1. (Added) Each MXG QP will develop a group specific QAP that will identify detailed quality processes and procedures relative to the group. QAPs will provide documentation of a group's specific day-to-day operational QA processes and procedures, not otherwise defined in the OO-ALC Quality Plan. All other requirements for QAPs will be as defined in paragraph 8.23.16.1.

8.29. (Added) AFMC Form 77, *Request for Quality Assistance* (RQA) for processing procedures and forms accessibility information will be provided in group QAPs.

9.2.1. (Added) OO-ALC Quality Assurance (OO-ALC/QPQ)will be the Office of Primary Responsibility (OPR) for the Impoundment Program.

9.3.7. (Added) F-22 terms – Integrated Maintenance Information System (IMIS).

9.3.8. (Added) F-22 terms – Portable Maintenance Aid (PMA).

9.3.9. (Added) Integrated Missile Database (IMDB). System used to track inventory of missile motors. Specifically, within IMDB, Missile Motor Tracking and Reporting System (MMTRS) will be referenced and documented based on guidance within this instruction.

9.4. (Added) Include major end item (MEIs) in addition to aircraft and equipment in this chapter.

9.4.4.1. (Added) An uncommanded activation of onboard systems, emergency power unit, fire suppression, egress, stores cartridges etc.

9.4.6.7.1. (Added AMARG) When single engine aircraft declares an in-flight emergency for engine problems. Aircraft, equipment or MEIs meeting impoundment criteria listed below will be placed into a maintenance freeze status. All maintenance activity will cease except to safe the aircraft or equipment for maintenance. No other actions will be taken until an impoundment authority determines if the aircraft or equipment requires impoundment.

9.4.11.1.2. (Added) Nose landing gear/main landing gear tire blowout during taxi or take-off. **Note:** Any condition that exceeds TO or Naval Air Systems Command (NAVAIR) limitations is considered foreign object damage (FOD). Nicks, dents, gouges, etc., that do not exceed TO or NAVAIR limits do not meet the requirements for impound. Personnel or supervision in direct control of impounded aircraft or equipment will not serve as impoundment officials.

9.4.12. (Added) Total loss of hydraulic system pressure in flight.

9.4.13. (Added) Lightning strike in flight.

9.4.14. (Added) Contaminated Fluids (i.e., in aircraft, engine, equipment, test systems, plating tanks, etc.). Fluids are considered contaminated when they possess foreign particles, material, or are contaminated from an outside source (i.e., metal, dirt, water, etc.). **Note:** Hydraulic fluid is not considered contaminated when it is crossed from another system on an aircraft.

9.5.2. (Added) The 514th Flight Test Squadron (514 FLTS) CC or designated representative may recommend impoundment to any of the above listed authorities.

9.5.3. (Added) If the reason for impoundment is determined to be reportable IAW AFI 91-204, *Safety Investigations and Reports,* (this includes support equipment damage exceeding $2,000), the appropriate safety office will appoint the investigation official.

9.5.4. (Added) All OO-ALC employees are empowered and obligated to recommend to the impoundment authority the impoundment of an aircraft, components, or support equipment when they are aware of an impounding condition.

9.5.5. (Added) If the reason for impoundment is due to defective equipment, or premature failure of component parts, coordinate with OO-ALC QP and the applicable depot maintenance back-shop, prior to determining disposition IAW TO.00-35D-54-WA-1, *USAF Deficiency Reporting, Investigation, And Resolution.*

9.6.1. (Added) Add AFTO Form 95, *Significant Historical Data*, work control document (WCD).

9.6.1.1. (Added) For aircraft in flight test phase:

9.6.1.1.1. (Added) Initiate AFTO Form 781A, *Maintenance Discrepancy and Work Document*

and complete as follows:

9.6.1.1.2. (Added) Item 1: "AIRCRAFT IMPOUNDED FOR INVESTIGATION OF:" (state problem), "SEE PAGE___ ITEM___ FOR ORIGINAL DISCREPANCY." Enter "IMPOUNDMENT OFFICIAL: _____," and a RED X in the symbol block. Use of preprinted AFTO Form 781A is authorized. **Note:** Preprinted AFTO Forms 781A are not authorized for F-22s.

9.6.1.1.3. (Added) For the F-22, add an aircraft impoundment warning in IMIS forms section in the PMA on all three work center event entries under the primary job control number or WCD IAW **paragraph 9.6.1.1.2.**

9.6.1.1.4. (Added) Enter in AFTO Form 781A Item 2: "ALL MAINTENANCE DEFERRED UNTIL AIRCRAFT RELEASED FOR MAINTENANCE BY IMPOUNDMENT OFFICIAL." Enter a RED X in the symbol block. **Note:** For F-22, annotation will be made in the IMIS forms section of the PMA.

9.6.1.1.5. (Added) Enter in AFTO Form 781A Item 3: "FORMS AND CORRECTIVE ACTION TO BE REVIEWED BY IMPOUNDMENT OFFICIAL PRIOR TO RELEASE FROM IMPOUNDMENT." Enter a RED DASH in the symbol block. **Note:** For F-22, annotation will be made in the IMIS forms section of the PMA.

9.6.1.1.6. (Added) Draw a RED BORDER on all four sides of the impoundment AFTO 781A. **Note:** Non-Applicable to the F-22. No Red Border is available in IMIS forms section.

9.6.1.1.7. (Added) For lost items, follow the procedures in the lost tool search package (on aircraft or off aircraft) for aircraft in production. If the aircraft is in flight test, ensure a Red X is placed on the AFTO Form 781A, a lost tool package is initiated, and the procedures of this supplement are followed. Contact tool control manager in the customer support section at (801) 586-4272, or after normal duty hours and on weekends get the lost tool/foreign object package from OO-ALC Alert Center, (801) 777-3238, Building 849. **Note:** For F-22, annotation will be made in the IMIS forms section of the PMA.

9.6.1.2. (Added) For Missiles:

9.6.1.2.1. (Added) OO-ALC Maintenance Operations Center (MOC) personnel, in coordination with QA, the engineering authority, and/or the applicable production supervisor will complete an AFTO Form 95. The AFTO Form 95 will be inserted into a protective document that allows visibility on both front and back sides and attached to the equipment in question. The AFTO Form 95 will be completed as follows:

9.6.1.2.1.1. (Added) The AFTO Form 95: May be completely red or have a red border around entire form (use a bold/wide red marker to make the border).

9.6.1.2.1.2. (Added) Block 1: Mission design series, type model and series. (Minuteman: LGM30G).

9.6.1.2.1.3. (Added) Block 3: Enter the equipment serial number.

9.6.1.2.1.4. (Added) Block 4: Enter date.

9.6.1.2.1.5. (Added) Block A: Insert a RED X.

9.6.1.2.1.6. (Added) Block B: Enter 'IMPOUNDED' using BOLD/WIDE letters. Then add a clear and concise statement indicating the reason for impoundment, the name of the impoundment authority with phone number, and name of the assigned impoundment official and phone number.

9.6.1.2.1.6.1. (Added) Document any special procedures, limitations, and/or restrictions associated with handling, transportation, or storage.

9.6.1.2.1.6.2. (Added) Part number for any part removed.

9.6.1.2.1.6.3. (Added) Serial number for any part removed.

9.6.1.2.1.7. (Added) Block C: Work center where asset is located. **Note:** (Added) Should a missile motor or booster be impounded; the description on the reverse side of the AFTO Form 95 will be the exact verbiage as entered into the IMDB (tab: MMTRS) under the 'Remarks' section. This exact verbiage will also be used in **paragraph 9.6.1.2.1.8.** email traffic.

9.6.1.2.1.8. (Added) The MOC will provide an email to OO-ALC POCs for entry into IMDB, as applicable. Descriptive comments shall be placed in the 'Remarks' section pertaining to the missile motor or booster in question.

9.6.1.3. (Added) For Engines/ Equipment: **Note:** (Added) If F-16/A-10/F-22 or C-130 engines are called to perform inspections on installed engines on impounded aircraft, the technicians will perform tasks IAW the applicable TO, and sign off all applicable AFTO Forms 781A discrepancies under the aircraft impoundment. If the engine is removed, engine shop procedures outlined in Section 9.6.1.3 of this chapter will be followed. **Note:** For F-22, this will be accomplished in the IMIS forms section of the PMA.

9.6.1.3.1. (Added) When impounding, enter on AFTO Form 244, *Industrial Support/Equipment Record*, the reason for impoundment, outlined in red, and enter a Red X in the symbol block.

9.6.1.3.2. (Added) For engines and equipment without an AFTO Form 244.

9.6.1.3.3. (Added) Releasing authority will review forms and corrective action and clear the Red X on AFTO Form 244.

9.6.2.1. (Added) The OO-ALC Alert Center, (801) 777-3238 will be notified when an impoundment decision has been made within the OO-ALC.

9.6.2.2.1. (Added) 309 AMARG job control will initiate checklist/event notification to levels of 309 AMARG supervision by email.

9.6.2.2. (Added) Contact the 309th Missile Maintenance Group (309 MMXG) MOC (801) 777-4818 or (801) 777-4819 for impoundment within the 309 MMXG. MOC will notify OO-ALC Alert Center, (801) 777-3238, and 309 MMXG QA.

9.6.2.3. (Added) Contact the 309th Aircraft Maintenance Group (309 AMXG) Maintenance Operations Center (AMXG/MOC) for impoundment within the 309 AMXG. 309 AMXG/MOC will notify the OO-ALC Alert Center. **Note:** If the AMXG/MOC is closed, notify the OO-ALC Alert Center.

9.6.3. (Added) Impoundment official will:

9.6.3.1. (Added) Review and complete all sections of applicable and developed checklist.

9.6.3.2. (Added) Attend the aircrew debriefing (if possible), or be debriefed by aircrew (if

required).

9.6.3.3. (Added) Review the aircraft binder (AFTO Forms 781A) and record jacket to determine if the aircraft has a history of the discrepancy and if maintenance was performed on that system, or in that area. **Note:** For F-22, this will be accomplished in the IMIS forms section of the PMA.

9.6.5.4.1. (Added) Make an entry in the AFTO Form 781A to ensure all recoverable stored data is collected prior to application of electrical power, if applicable. **Note:** For F-22, this will be accomplished in the IMIS forms section of the PMA.

9.6.6.1.1. (Added) All parts removed pertaining to the impoundment will be assessed for the necessity of product quality deficiency report or engineering inspections procedures outlined in T.O. 00-35D-54-WA-1. This will be coordinated through OO-ALC/QA office.

9.6.7.1. (Added) Prior to impound official releasing an aircraft or equipment for maintenance, the impound official will conduct a preliminary assessment to ensure no non-impound related maintenance will be performed that will hinder the investigation or correction of an impounded aircraft or equipment.

9.6.7.2. (Added) The impound official may release the aircraft for maintenance once an action plan has been formed to determine the cause and correction of impound, and once a preliminary assessment has been accomplished to assess feasibility of non-impound maintenance. Enter "AIRCRAFT RELEASED FOR MAINTENANCE IAW AFI 21-101, *Aircraft and Equipment Maintenance Management*, Chapter 9B in the corrective action block of the AFTO Form 781A entry made in **paragraph 9.6.1.1.4.** of this instruction. Signature of the impoundment official is required in the 'Inspected By' block only. **Note:** For F-22, this will be accomplished in the IMIS forms section of the PMA.

9.6.7.3. (Added) Ensure all work done on aircraft is properly documented in the active AFTO Forms 781A, and the appropriate depot work control document. **Note:** For F-22, this will be accomplished in the IMIS forms section of the PMA.

9.6.7.4. (Added) Review the applicable maintenance forms with impoundment team members and technicians to ensure impoundment problem has been solved.

9.6.7.5. (Added) After reviewing the AFTO Forms 781A, sign off the corrective action "FORMS AND CORRECTIVE ACTION C/W (Complied with). Signature of the impoundment official is required in the 'Inspected By' block only. **Note:** For F-22, this will be accomplished in the IMIS forms section of the PMA.

10.2.1.3. (Added) Warranty Tools. Tool Crib/Production Support Center (PSC) tool issue centers will maintain an active warranty tool program. No attempt to repair and/or modify any warranty tool will be made by either users or program managers.

10.2.1.9.1. (Added) Rag Control Procedures. The following procedures will be used for control of rags and paper products.

10.2.1.9.1. (Added) Applicable groups will establish specific requirements for control of paper products when used in a closure or final assembly. Any paper products used will meet with all FOD requirements and the Base Hazardous Waste Management Plan.

10.2.1.9.2.3. (Added) Each MXG will be responsible to ensure cloth rags are controlled and accountable when used in maintenance processes that require closure procedures or final assembly. PSCs or their functional equivalent (this may be a supervisor when necessary) will have the responsibility for the issuance and receipt of cloth rags (as required above) used in that functional area.

10.2.1.9.2.3.1. (Added) The PSC or functional equivalent will verify and record the number of cloth rags issued to an individual in a written or electronic rag tracking log.

10.2.1.9.2.3.2. (Added) Cloth rags will be controlled IAW this supplement, all FOD requirements, and the Base Hazardous Waste Management Plan. Cloth rags (when used in a closure or final assembly process) will be returned to the issue point, counted and verified by the PSC or functional equivalent. When cloth rags are returned, the person receiving them will annotate in the written or electronic rag tracking log that the items have been returned. AFMC Form 310 *Lost Found/Item Report*, must be initiated for any cloth rag (when used in a closure or final assembly) that cannot be accounted for.

10.2.1.9.2.3.3. (Added) All employees performing maintenance in high FOD potential areas, on aircraft, engines and accessories, or providing a service to these organizations will perform an inspection of the work area, prior to closing out a task, or moving to another area to ensure that cloth rags have not been inadvertently left in the area.

10.2.1.18. (Added) The supplemental list is a listing of all items kept in tool kit (TKs) that are not listed on the TKs custody receipt listing (CRL). Supplemental listings will contain at a minimum, the national stock number (NSN) and/or part number (if applicable), nomenclature, size (if applicable), quantity, drawer location, and TK identification (ID). The supplemental list will be signed and dated by both the employee and the supervisor immediately after the last entry on the list. A copy of the supplemental list will be kept with the TK CRL, and on file by the supervisor. Use AF Form 3126, *General Purpose 8½ x 11* or AF Form 3136 *General Purpose 11 x 8½*.

10.2.1.19. (Added) Tools removed from a TK used by more than one person will be tracked by one of the following methods: AFMC Form 62, *CTK Inventory and Control Log*, which at a minimum will contain tool nomenclature (tool number and nomenclature), date out/in (out/in time/signature), location of use or end item (consolidated tool kit [CTK]/tool destination), name of borrower (employee number) or electronic equivalent; by using a electronic keyed device on a TK, (swiping of the tool card to sign in or out of the TK). The following information must still be provided through a printable report: tool nomenclature, date out/in, location or end item of use, name of borrower and maintained for a minimum of 60 days.

10.2.1.19.1. (Added) Tools removed from a TK used by more than one person will be tracked by one of the following methods: AFMC Form 62 which at a minimum will contain date, employee name (employee number), tool nomenclature (tool number and nomenclature), location of use or end item (CTK/tool destination), out time, in time, or by using a electronic keyed device on a TK (swiping of the tool card to sign in or out of the TK). The following information must still be provided through a printable report: tool nomenclature, date out/in, location or end item of use and name of borrower.

10.2.1.19.1.1. (Added) Copies of AFMC Forms 62 must be kept for a minimum of 60 days for inventory purposes.

10.2.1.19.1.2. (Added) The owning organization's test measurement and diagnostics equipment (TMDE) monitor will be responsible for routing precision measurement equipment (PME) items for calibration. PME items maintained in a TK will either be individually shadowed within the TK, or be placed in containers. If placed in containers, the container will be controlled IAW **paragraph 10.5.1.3.1.1.**

10.2.1.19.1.3. (Added) TMDE monitors will issue a receipt to be kept in the TK for tools removed for calibration, certification or repair.

10.2.1.20. (Added) Cleco Control Procedures. Clecos, wedge lock fasteners, and other similar holding devices (hereafter 'clecos') are considered tool items, and will be marked with the TK ID number, controlled, and subject to inventory and lost tool procedures. Clecos will be shadowed in the TK either individually, in containers, or on trays. If clecos must remain on an aircraft or component for multiple shifts, an informational Note will be made in aircraft record and/or in the WCD task description block of the specific WCD operation number where the clecos were installed. This installation Note will be stamped and dated by the technician who installed the clecos on the aircraft or component. When the clecos are removed, another informational Note will be made indicating clecos removed. The removal statement will be stamped and dated by the technician that removed the clecos. Total quantity of clecos installed/removed will be reflected in the informational Note.

10.2.1.21. (Added) Tools used to support temporary duty (TDY), only if taken from an existing CTK or individual tool kit (ITK), will have an AF Form 1297, *Temporary Issue Receipt,* documenting, tool NSN, nomenclature and quantity of tools. AF Form 1297 will be present with tools to serve as a TK CRL. A copy will be left in the existing kit to ensure accurate inspection and inventory records are maintained. All copies will be signed by employee, supervisor and tool control manager (TCM), and a line will be drawn through the unused portion of the list. If TMDE is included in the tools taken TDY, a copy of the AF Form 1297 will be given to the PME monitor for their records. All inventories of such tools will require the AFMC Form 309, *AFMC Tool Control Inventory Record*, for daily and supervisor's inventories.

10.2.1.21.1. (Added) Tools checked out of a tool crib/PSC to support a TDY will be requested on a Hill AFB Form 515, *Tool Request,* and tracked in the Electronic Facility Equipment Management System (EFEMS). A copy of the Hill AFB Form 515 will be used as a TK CRL for the duration of the TDY. TKs left in place at TDY locations will be inventoried and transferred between team chiefs on a Hill AFB Form 515. A copy of the Hill AFB Form 515 will be forwarded to the issuing tool crib by the returning team chief upon his/her return. While TDY, team chiefs will coordinate with the issuing tool crib on broken/replacement tools.

10.2.1.22. (Added) Long Term Storage. Groups requiring long term storage will establish secure areas for TK storage.

10.2.1.23. (Added) Procedures for contract field teams when performing maintenance at the OO-ALC/AMARG.

10.2.1.23.1. (Added) Depot On-Site Contractor Augmentee Team employee's performing depot maintenance functions will be issued tools from Tool Crib/PSC, and will comply with all applicable tool control regulations.

10.2.1.23.2. (Added) Other Contractors.

10.2.1.23.3. (Added) Other contractors performing functions in industrial areas within OO-ALC will be required to have a method for controlling and accounting for tools used, and will be written into their contracts. This program must be outlined in the contractor's quality plan and must be coordinated with the respective contracting officer and contract functional manager or his/her designated representative. All contractors working within OO-ALC will be required to inventory their tools at the beginning of the shift, at the end of each task, and at the end of each shift to check for any lost or missing tools. Any lost tools not found must be reported immediately to the contracting officer, production area supervisor, and MXG tool manager. Control and issue of government provided contractor TKs, kit template, and ID numbers will be accomplished using Hill AFB Form 516, *Establish or Revise Tool Lists or Appendages,* and Hill AFB Form 515.

10.3.2. (Added) At a minimum, shop machinery accessories and attachments storage cabinets/drawers will be marked to identify the contents. Shop machinery accessories/attachments and/or end items used to adjust or operate equipment that is used for TDY support shall be marked (laser, etching or permanent marker) with HILL AFB Bldg # and office symbol. Items that cannot be marked by laser, etching or permanent marker will be identified with a metal tag lasered or etched with HILL AFB Bldg # and office symbol, and secured to item in a way that it is not easily removed. Shop machinery accessories/attachments and or end items used to adjust or operate equipment when used to support a TDY, will have an AF Form 1297 initiated with a description of all items issued along with an AFMC Form 309. The AFMC Form 309 will be annotated at the end of shift inventory each day the items are used during the TDY.

10.3.2.1. (Added) Shop supervisor review of the AFTO Form 244 will be documented in Part IV of the AFTO Form 244, with review intervals of 180 days, at which time the AFTO Form 244 or computer generated equivalent will be reviewed for correctness and accuracy.

10.3.2.2. (Added) OO-ALC will only use approved computerized maintenance management systems for Depot Industrial Plant Equipment (DIPE) for equipment maintenance management and documentation purposes. The AFTO Form 244 will not be used to document maintenance management. Exception; hoists and cranes will use the AFTO Form 244 as outlined in AFI 91-203, *Air Force Consolidated Occupational Safety Instruction* for the purpose of documenting prior to use inspection only.

10.3.2.3. (Added) Specific operator's maintenance on DIPE, or inspection of a specific nature, as identified on an AFMC Form 306, *Preventive Maintenance Instruction,* or equivalent, and performed by the owning organization/operator will be documented on the AFMC Form 355, *Operator Maintenance Certification (LRA).* The AFTO Form 244 will not be used.

10.3.5.2. (Added) Shadowing of tools listed from the TK CRL will be accomplished by 309th Maintenance Support Squadron (309 MXSS/MXDVAC).

10.3.5.2.1. (Added) Cut-out will facilitate ease of inventory and be in the general shape of the item within +/- 1" variance.

10.3.6.2. (Added) 309th Maintenance Support Group (309 MXSG)/authorized contractors will ensure each TK can be locked to prevent unauthorized access. This may be accomplished by using tool containers that have an integral locking system, or any other locking device (i.e.,

padlocks cables or a lock bar). If not permanently attached, will be marked/etched with appropriate TK number and listed on the TK CRL/supplement list.

10.3.6.2.1. (Added) Individuals will secure/lock tools, TK or equipment anytime the tool or TK is left unattended (not being watched or looked after). If a tool or item can be removed from a TK without an employee's knowledge, then the TK is not secured.

10.3.6.3.2. (Added) Expendable items are items that must be frequently replaced due to high use, excessive wear, breakage, or otherwise become unfit for use. Supervisor approval is required before any expendable is added to a TK, and shall be controlled as follows: Such items requiring replacement due to usage or breakage will be exchanged on a one-for-one basis as soon as possible. Every attempt will be made to recover and return all pieces of broken expendable tools to tool crib/PSC prior to replacement. If the tool or a significant portion is lost, a copy of a completed AFMC Form 310 must be presented before a replacement tool may be issued.

10.3.6.8. (Added) TK/CRL Management. The tool issue center located in tool crib/PSC will manage the TK CRL. During the TK issue, the tool crib attendant and the employee will ensure the TK CRL, and TK quantities match, tools/items are marked per marked column, and are accurate to include drawer markings. The employee and tool crib attendant will sign the TK CRL. The master will be kept by 309 MXSS/MXDVAC. One copy will be provided for the first line supervisor to be maintained on file, and one copy will be placed in a protective container (plastic bag, binder, etc.) and provided to the employee for retention in the TK. Out of stock items will be reflected on the TK CRL, annotated back ordered, and placed on back order. When these items are received, the responsible employee and tool crib attendant will initial and date all three copies of the TK CRL. The TK CRL master copy will be used as the turn-in document for employees when they leave an organization, or when they terminate employment. All other additions, deletions or changes to the TK CRL will be accomplished by tool crib/PSC tool issue center personnel only, and will be reflected on all three copies (master copy provided by the crib, the supervisor's and the employee's copy provided by the mechanic) of the TK CRL. The crib attendant and kit owner will initial these changes. Any line item on the TK CRL that requires the number of pieces to be annotated will be filled in by the tool crib attendant and initialed by both the mechanic and tool crib attendant.

10.3.6.8.1. (Added) Tools on back order will be tracked in EFEMS, and a receipt issued to the TK owner. The receipt will be date stamped to provide back order visibility. On new kit issues the appropriate quantity will be annotated on the TK CRL for the backordered item.

10.3.6.8.1.1. (Added) All TKs with attached containers/side box will be listed on the TK CRL/supplemental.

10.3.6.8.1.2. (Added) Maintenance stamps and their caps, when maintained in the TK, will be marked IAW Chapter 19 of this supplement, shadowed and put on the supplemental list as stamp and cap.

10.3.9.1. (Added) Items such as razor blade covers (paper), tweezers tip protectors will be removed.

10.3.13. (Added) Non-Moble TKs. For TKs that use drawers of a workbench, workstation, cabinet or vidmar to store assigned tools, clearly mark each drawer that is part of the TK . TKs will be marked 'Drawer 1', 'Drawer 2', etc. as reflected in the drawer column of the TK CRL. Excess drawers that are used for other shop requirements must be labeled as such.

10.3.15. (Added) All non-disposable personal protective equipment (PPE) will be exchanged on a one-for-one basis. AFMC Form 310 will be initiated for all lost non-disposable PPE. **Note:** Disposable items do not require marking.

10.3.15.1. (Added) PPE kept in an ITKs will be marked with the ITK number. Each item will be listed on the supplemental list and shadowed.

10.3.15.2. (Added) PPE not stored in an ITK will be stored in a personal or PPE locker. These items will be marked with the last name and first initial of the owning individual. **Note:** (Added) Shop PPE – PPE that is intended for shop use i.e., face shield for shop use at a drill press, will be marked with the organizational symbol.

10.4.2.1. (Added) ITKs are issued for use to a single individual. CTKs are issued to a supervisor for use by their crew. Dispatchable Tool Kit (DTKs) are issued from the PSC to perform a specific task, or for use by a specific Air Force Specialty Code and is designed to be used outside the tool room or work center. One individual is responsible for the DTK. All appropriate inspections are applicable to the TK.

10.4.2.1.1. (Added) TK Content Determination. The production/project engineer or planner, production supervisor and technicians (users), define the composition of templates required for new workloads. These templates must be approved through the product/project group engineering and planning section at squadron-level, prior to submission for implementation. A Hill AFB Form 516 is required to establish a new template, or to revise or delete an established template. Each type of standardized template will be assigned a template number. Hill AFB Form 516 must have a complete list of required tools, including NSN, nomenclature and issue quantity, drawer locations (i.e., Drawer 1, Drawer 2) before they are forwarded to 309 MXSS/MXDVAC. Supporting commercial data, (source, part number, catalogue page or screen print) will be provided for adding non-stock listed parts. The supervisor must submit a Hill AFB Form 516 signed by second level supervisor or equivalent to group tool manager to make changes to a template.

10.4.2.1.2. (Added) Since the supervisor is ultimately responsible for TKs under his/her control, the supervisor or designated representative (a non Bargaining Unit) will sign the AFMC Form 309 verifying the required 365-day inspection has been properly completed. This may include TKs assigned directly to the supervisor. Previous AFMC Forms 309 will be stored/filed until a supervisor review has been accomplished on the current AFMC Form 309.

10.4.2.1.3. (Added) CTKs will be inventoried and transferred from supervisor to supervisor as needed. The TK will be updated to match template changes as required. When a supervisor is not available or has been replaced, the CTK must be transferred to the second-level supervisor until a permanent supervisor is assigned or turned into the tool crib.

10.4.2.1.4. (Added) The person who is responsible for the TK (ITK/CTK) will perform a visual inventory prior to breaks, lunch time, and when an individual leaves the work area.

10.4.2.1.4.1. (Added) All items in any TK (except personal items stored in the personal item drawer) will be listed on an inventory control listing whether it is the TK CRL, or a supplemental listing.

10.4.2.1.4.2. (Added) A separate AFMC Form 309 will be maintained in each TK for each shift that uses that TK. Previous AFMC Forms 309 will be stored/filed until a supervisor review has been accomplished on the current AFMC Form 309.

10.5.1.3.1. (Added) Tools, impractical or too small to mark will be identified on the OO-ALC 'N' marking list. Categories of tools too small or impractical to mark will be approved, signed and dated by the complex tool program manager and kept on file in the tool issue centers. TK CRLs with column labeled MARKED: All tools/items listed in this column as 'N' are not required to be marked and must be listed on OO-ALC 'N' marking list categories. All tools/items listed in MARKED column as 'Y' are required to be marked with the TK number. Tool sets/kits with multiple miscellaneous tools will be listed in the MARKED column as 'Y'. If the kit/set contains tools which are listed on the OO-ALC 'N' marking list categories list, they are not required to be marked with TK number. All other tools within the kit will be marked with TK number. **Note:** Asterisks located in the DESCRIPTION column are irrelevant. Tools impractical to mark but are large enough to make a representative impression may be individually shadowed.

10.5.1.3.1.1. (Added) Containers (cases, pouches, tubes, boxes, etc.) will be shadowed and marked, lasered, or etched with the TK number, and quantity. Lids or caps will be marked and listed on TK CRL/supplemental list only if they can be separated from the container making two individual pieces. If an identification number becomes illegible, the TK owner will remark container by end of shift.

10.5.7.1. (Added) Upon taking custody of an ITK, the kit owner will externally mark the kit with their last name, first initial and organizational symbol in any order. ITKs will also be marked with the TK ID number on the inside of the TK in an area not visible from the outside of the TK. TK owners are responsible to update changes to organizational symbols if and when they occur.

10.5.7.2. (Added) PSC numbering methodology and configuration.

Building Number/Tool Crib	TK ID#
Bldg 265 Tool Crib 3	HLMB
Hanger 1 Tool Crib 12	HLA10
Bldg 225 Tool Crib 14	HLSE
Bldg 225 Tool Crib 15	HLSM
Bldg 233 Tool Crib 16	HLFT
Bldg 5 Tool Crib 17	HLEN5
Bldg 680 Tool Crib 19	HLCB
Bldg 590 Tool Crib 20	HLAS
Bldg 238 Tool Crib 22	HLBB2
Bldg 204 Tool Crib 23	HLF22
Bldg 748 Tool Crib 26	HL748
Bldg 674 Tool Crib 74	HL674

10.5.7.2.1. (Added) OO-ALC Geographically Separated Unit (GSU) marking methodology.

Code	OO-ALC GSU
HLRA	AMXG-Randolph
HLSCP	EMXG-Kadena
HLV	MMXG-Vandenberg
FWHR	MMXG-FE Warren
MBMRM	MMXG-Malmstrom
MPSR	MMXG-Minot

10.5.7.1.1. (Added) All TKs will be assigned a TK ID and each tool in the TK will be marked with the TK ID number, prior to initial issue. Tools being replaced will be marked prior to replacement by assigned tool crib personnel. Tools that are listed on OO-ALC 'N' marking lists are not required to be marked. Tools will be laser marked where possible. Laser marking of tools is the preferred method.

10.5.7.1.2. (Added) External mounted devices (i.e., such as vices) will be marked under the mounting block to prevent the TK number from being easily viewed, and will be subject to inspection requirements and lost tool reporting procedures.

10.5.7.1.3. (Added) Tools made of a material incapable of laser or etching (i.e., rubber, rawhide, plastics etc.) shall be marked with a permanent marker. If the marking becomes illegible, the tool will be remarked before the end of the shift.

10.5.7.1.4. (Added) Military units will mark their mobility TKs for deployment IAW AFI 10-403, *Deployment Planning and Execution.*

10.6. (Added) Locally Manufactured/Modified Tool (LM/MT). MXG will be responsible to approve and control special tools and locally manufactured/modified tools (tools that have been made or modified for a specific job function).

10.6.1. (Added) When procuring tools to be modified, a Hill AFB Form 515 must be completed by the requestor, describing the tool to be modified, reason for the modification and intended use. The Hill AFB Form 515 must then be signed by the supervisor, prior to being taken to the tool crib/PSC. The procured tool will be taken to engineering for modification.

10.6.2. (Added) LM/MT will be controlled. Approved and authorized LM/MT may be in a TK, but must be listed on the supplemental list. LM/MT will be marked with the TK number, shadowed, and identified on the supplemental list.

10.6.3. (Added) Tools listed and issued to a TK will not be modified. Dressing or sharpening of tools is allowed IAW TO 32-1-101, *Use and Care of Hand and Measuring Tool.*

10.7.2.1.1. (Added) Replacement. A limited stock of replacement tools will be maintained by 309 MXSS. The supervisor will ensure quantities and types of tools in stock are not excessive and/or co-mingled. Tool bin labels will include NSN or part number, unit of issue, item description, and maximum bin levels. Stock levels may be adjusted in support of special projects, special operating requirements, or if existing demand data is insufficient to support

mission requirements. A single occurrence of a mission limiting status is not sufficient reason to establish an adjusted stock level, but may be an indicator to review demand data for accuracy. Up to a 90-day level of items that are subject to wear and breakage may be maintained to replace unserviceable items. When bin levels drop below determined minimum levels, new stock will be ordered. Tool crib/PSC will stock standard size (e.g. 3/16", 1/4", 5/16") drill bits, and a nominal amount of standard size machine and hand reamers under 1" diameter.

10.7.2.1.1.1. (Added) Tools that require replacement or repair will be turned in to the tool crib/PSC. If the tool is sent for replacement/repair, the TK owner will be given a receipt generated by the EFEMS Tool Management Program.

10.7.2.6. (Added) An appointment must be made with tool crib/PSC, prior to TK issue and turn-in. During TK issue both the issuing tool attendant and the receiving mechanic/technician will verify each tool listed on the TK CRL for accuracy of tools issued, serviceability, and proper TK marking. Supervisors will ensure employees read and return the signed original AFMC Form 311, *Certificate of Responsibility for Government Property*, to the tool crib/PSC, prior to receiving a tool issue. Tool crib/PSC will retain a copy of the EFEMS work order, the AFMC Form 311, and the master (official) TKCRL signed by the employee, which will be maintained by the tool crib.

10.7.2.8. (Added) TK Issue. Hill AFB Form 515 is signed by the first-level supervisor and forwarded to the group TCM to ensure all information is correct. Once Hill AFB Form 515 is complete it will be used to order TKs from tool warehouse. The group TCM or alternate will submit work order requests electronically in the eFEM (Electronic Federal Equipment) system to tool crib/PSC with a reasonable need date. All information including the TK type number (template) and the appropriate supervisor's signature (first-level may sign for ITKs, second-level must sign for CTKs) must be provided.

10.7.2.8.1. (Added) Template Change. Templates may be changed to ensure the right number of tools, proper tool to complete a given task, skill or work area, or a combination thereof to attain configuration control/standardization. Template changes will be documented on Hill AFB Form 516, and forwarded to the group TCM. The group TCM will forward any required template changes to the tool warehouse/tool issue center so the template may be updated. Issued TKs will be reconfigured to meet new template requirements if the template is revised. TK composition should be the same for all employees possessing the same skill who are working in the same work center.

10.7.2.8.2. (Added) TK turn in. When an employee is permanently reassigned to a new work center or moves from his/her current job assignment, the ITK will be turned into the tool center. The tool room attendant and employee will inventory the kit for accuracy of tools returned and proper TK marking. Tool attendant and mechanic/technician will sign an EFEMS transaction report. A copy will be provided to the mechanic/technician for their TK turn-in receipt once all tools have been accounted for.

10.7.2.8.3. (Added) Items listed on the supplemental list will be turned-in to current supervisor. Inventory, control, and lost tool procedures will apply to supplemental items.

10.7.4. (Added) Applicable MXG will be responsible to establish procedures and/or operating instructions that provide tool control guidance for their respective PSCs.

10.7.4.1. (Added) PSC End of Shift Inventory. At the end of each shift, PSC will print EFEMS Current Temporary/Special Issues Report and verify physical status. File report and annotate page 1 of AFMC Form 309 (Tool Control Inventory Record) in daily shift inventory binder.

10.7.4.1.2. (Added) The annual inventory of tools and equipment in all tool cribs or PSCs will be documented by attaching a cover letter to the inventory listing used to conduct the inventory that contains the following information: the crib inventoried, the date the inventory was conducted, names of the individuals who participated in the inventory, discrepancies found, corrective actions taken and the supervisor's name and signature.

10.7.4.1.3. (Added) Temporary loaned tools will only be loaned to employees and supervisors with a valid tool card. Tools checked out from the tool crib or PSC may be stored in the employee's ITK, but not in their personal drawer. These items will not be on loan for more than five calendar days. If tools are required for more than five calendar days, the location of the tool must be physically verified and the loan must be renewed.

10.7.4.1.3.1. (Added) When permanently changing a group resource center code (RCC), ensure information (i.e., tool card) provided to the tool crib/PSC has been updated for the purpose of tracking loaned tools and equipment.

10.7.4.1.4. (Added) DTKs. DTKs assigned and maintained within a tool crib/PSC will require an AFMC Form 309 to document inspections as follows: When the TK is issued and returned to the tool crib/PSC during the same shift/day, the responsible mechanic along with the tool crib/PSC attendant will perform a joint inventory, upon completion the Tool Crib/PSC attendant will annotate inventory on AFMC Form 309 page 1. If the TK is not returned during the same shift or day, the responsible mechanic will complete all required inspections and annotate page 1 of the AFMC Form 309. Pages 2 and 3 may be used as required and page 4 will be used to document lost tools. At least once every 365 days the PSC/tool crib supervisor or designee (that is the alternate supervisor, wage leader, or military equivalent) must inspect the DTKs assigned to a PSC/tool crib and document on page 4 of AFMC Form 309.

10.7.4.2.1. (Added) Overdue tool notification procedures.

10.7.4.2.1.1. (Added) The tool crib/PSC will notify the supervisor/mechanics and tool program manager of delinquent tools on the EFEMS web page. Supervisors are responsible to check the site weekly, and notify employees that have delinquent tools and instruct them to return the tools to the issuing tool crib/PSC immediately. Employees with delinquent loaned tools will not be allowed to check out additional tools until the delinquent tool has been reconciled.

10. 7.4.2.1.2. (Added) Tool management employees will notify supervisor and tool program manager regarding over-due tools via e-mail.

10. 7.4.2.1.3. (Added) Tool management employees will post a list regarding over-due tools a tool crib or issue point.

10.7.5.2. (Added) Point of Use Station (POUS). Items are added to POUS machines after production supervisor has given written approval. Written approval will be verified by Quality Assurance Evaluator (QAE) for content. Initial stock lists are coordinated between material and production personnel. **Note:** Recoverable tools and items issued through the tool warehouse/crib will not be stored in or issued from POUS.

10.7.5.2.1. (Added) Usage reports will be distributed each month to third-level supervision. The usage report must reflect the following minimum requirements; issued product, name of technician, quantity of issue, time/date of issue, and location of issue. Usage reports will be used to identify high pilfered items. Reports will be kept a minimum of 2 years. **Note:** It is the responsibility of MXG supervision to identify high pilfered items. If identified as high pilfered, then these items will be issued as a one-for-one swap.

10.7.5.2.2. (Added) These usage reports will be used to identify high pilfered items. If PPE is identified as high pilfered, (by MXG supervision), then these items will be controlled as a one-for-one swap.

10.7.5.2.3. (Added) POUS machines will be inventoried by the owning organization on a quarterly basis and identity tags verified for content. Minimum/maximum levels are reviewed at this time; slow or dead stock will be removed. Inventory accuracy is verified by QAE.

10.8.1.8. (Added) Lost Tools. Tools identified as missing from a TK, tool cribs or a PSC will be reported immediately to the supervisor. Since an employee issued tool card is used to track tools, equipment, and funds associated with the employees group, if lost will require an AFMC Form 310 be initiated.

10.8.1.8.1. (Added) A lost tool report will be initiated on an AFMC Form 310 electronic signature capable, and page four of AFMC Form 309 will be documented. When a tool is lost, the tool owner will document the loss on page 4 of AFMC Form 309. The immediate supervisor of the employee who lost the tool will contact the group TCM to initiate a lost tool package to include, as a minimum, an AFMC Form 310. The immediate supervisor will complete the lost tool package/AFMC Form 310. The supervisor will ensure AFMC Form 310 block 17a is signed by the first level supervisor, 17b signed by the second level supervisor, and 17c is signed by the group TCM. Block 18 will be signed by the squadron director/deputy. The lost tool/item package AFMC Form 310 will have a 5-workday suspense back to the group TCM once it is issued. The group TCM will ensure the lost tool package/AFMC Form 310 to include all required electronic signatures is complete, and has been properly coordinated. Responsibility rests with group supervision to determine if tools were lost due to suspected gross negligence.

10.8.1.8.2. (Added) The person issued the tool/item must search the immediate work area for the missing tool/item, and immediately report it to their supervisor. The supervisor must conduct a search of the areas including inside equipment where the tool may have been used. The following information must be provided to the group TCM:

10.8.1.8.3. (Added) Name and office symbol of the accountable individual, nomenclature, TK ID number, and when and where the tool was lost.

10.8.1.8.4. (Added) If a tool is lost across groups or in an area not usually assigned to the TK owner, then the immediate supervisor or alternate supervisor of that area must be notified. This will make supervisors aware of a lost tool in their area of responsibility, so appropriate lost tool procedures may be taken.

10.8.1.8.5. (Added) Once the information is provided, the group TCM will issue a lost tool sequential control number which will be annotated in block 1 of AFMC Form 310. Lost tool control numbers will consist of the first four letters of the MXG initiating the lost tool report, followed by the last two digits of the year, the three digit Julian date, and a sequential two digit number starting with 01 and ascending up to 99 (e.g., 309th SMXG Software Maintenance

Group [309 SMXG]-02-342-01 or 309th CMXG Commodities Maintenance Group [309 CMXG]-03-003-02).

10.8.1.8.6. (Added) In every case, an AFMC Form 310 will be provided to issuing tool room for tool/item replacement and be maintained in the master TK file. The group tool program manager will maintain a copy of the AFMC Form 310, and copies will be forwarded to the employee, the TK owner's supervisor, and the TCM. Follow AFMAN 23-220, *Reports Of Survey for Air Force Property*, if applicable.

10.8.1.8.7. (Added) A tool that is found will be reported to the group TCM within 2 hours. Tools found prior to completion of the lost tool reporting process will be returned to the TK owner. Once documented, a completed copy of AFMC Form 310 will be forwarded to tool crib/PSC to be maintained in the master TK file, and copies will be forwarded to the TK owner, TK owner's supervisor and the TCM who will maintain for 2 years.

10.8.1.8.8. (Added) Tools that are found after the lost tool investigation and reporting process have been completed will be returned to tool crib/PSC by the MXG TCM if a replacement tool has been already issued. The MXG TCM is responsible to annotate the AFMC 310, blocks 16-A to document tool recovery. Once completed, group TCM will forward revised AFMC Form 310 to TCM. Recovered tools returned to tool crib/PSC will be either de-marked and returned to stock if serviceable or properly disposed of if unserviceable.

10.9.1. (Added) Initial Work Center Briefings. All newly assigned, temporary, contractors, transferred and loaned personnel with access to production areas, will receive a work center specific tool and equipment briefing.

10.9.1.1. (Added) Contractor personnel employed by the OO-ALC will develop and implement procedures to control/account for tools/items that comply with this instruction.

10.10. (Added) Individual Responsibilities:

10.10.1. (Added) Complex Tool Program Manager:

10.10.1.1. (Added) Is the single point of contact on all matters concerning tool control and accountability.

10.10.1.2. (Added) Provides guidance for and assists in the development, review and enhancement of tool policies and procedures.

10.10.1.3. (Added) Is the authority on tool marking and the 'N' marking list. The 'N' marking list will be maintained by the TCM and will be posted on Tool SharePoint site.

10.10.2. (Added) Group TCM:

10.10.2.3. (Added) Perform tool box inspections IAW American National Standards Institute (ANSI) as a minimum, on ready to issue TK's from tool warehouse/crib. Discrepancies will be documented in Quality Information Management Standard System (QIMSS), provide monthly data to the TCM, their respective product group QA personnel, and 309 MXSS/MXDVAC and assigned group squadron leaders.

10.10.2.4. (Added) Open and track AFMC Form 310 reports, ensure 5-day work suspense for closure. Forward AFMC Forms 310 lost/found tool reports to complex TCM upon completion.

10.10.2.5. (Added) Review to ensure all Hill AFB Forms 516 and 515 are properly documented with all of the following: list of required tools, including NSN, nomenclature and issue quantity, prior to signature of group TCM. Once properly completed, group TCM will forward to 309 MXSS/MXDVAC.

10.10.2.6. (Added) Provide tool control and accountability guidance to managers and employees on approved policies and procedures regarding the tool control and accountability program.

11.2. (Added) For Mock-up Control procedures follow AFMCI 21-130, *Depot Maintenance Materiel Control* and AFMAN 23-110, *USAF Supply Manual*, for material procedures.

14.19. (Added) Refer to AFI 21-101_AFMCSUP_Hill Air Force Base (HILLAFB) Guidance Memorandum 21-05, *Aircraft and Equipment Maintenance Management*, for organizational responsibilities between 75th Air Base Wing (ABW) and OO-ALC.

14.19.1.3. (Added) FOD critical areas within the OO-ALC are listed in a memorandum format available on the OO-ALC/QP SharePoint under FOD/DOP information. It is imperative group FOD/DOP FPs coordinate with leadership and re-evaluate an area in the event of changes or new workload locations, and forward updated listings to the ABW FOD/DOP Monitor to maintain currency.

14.19.2.6.2. (Added) Aircraft engine run or launch team personnel will remove and secure all jewelry, badges, lanyards and pocket contents prior to performing any engine run tasks.

14.19.2.6.2.1. (Added) Hazard free working conditions, although difficult to attain, are paramount for the safety of work center personnel. In conditions where no established safety guidelines are available, a Job Safety Analysis will be accomplished as outlined in AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*. Consult OO-ALC Safety for all work center safety requirements.

14.19.2.6.3. (Added) FOD awareness and prevention checklist for visiting personnel escorts is available on the OO-ALC/QP Management Information System, under FOD/DOP information.

14.19.2.9.1. (Added) Upon removing hardware from stock or a task kit, it will be placed in a positive closing container prior to it entering into an area which requires a secondary Production Acceptance Certification (PAC) for closure.

14.19.2.11.1. (Added). Leadership within groups which possess FOD critical areas will ensure these areas are designated as Areas of Responsibility AORs for FOD walk purposes. See AFI21-101_AFMCSUP_HILLAFBGM21-05 for further guidance.

14.19.2.11.2. (Added) Prior to the departure/arrival of an aircraft from 309 AMARG, management/supervision will ensure an immediate area FOD check is accomplished on the portion of the flight line in which the aircraft will be arriving to or departing from. Mobile 2 and/or the escort vehicle will inspect the taxi route for FOD to and from the 309 AMARG/ Davis-Monthan Air Force Base gate for all arriving and departing aircraft. The 309 AMARG Follow-Me vehicle will also inspect the taxi route. Prior to any ground maintenance aircraft engine operation, management or supervision will ensure a FOD walk, in the immediate area around the aircraft, is accomplished by the responsible squadron.

14.19.2.11.3. (Added) 309 AMARG Control will schedule the OO-ALC AMARG motorized sweeper through the support squadron to sweep the flight line, parking pads, trim pads and taxiways at least twice a week. For immediate FOD problems that cannot be taken care of by an individual, contact 309 AMARG Control for the motorized sweeper, or QP-FP for the towable sweeper.

14.19.2.11.4. (Added) At 309 AMARG, a pre-tow FOD walk throughout the desert areas prior to a tow operation is impractical. The tow team supervisor will ensure the tow route is closely monitored during the tow and will halt the operation when a FOD hazard is observed. The FOD hazard will be eliminated or an alternate route selected before the tow will continue.

14.19.2.12. (Added) The 309 AMXG FOD/DOP FP will ensure communication has been established with the owning unit to inform them of the initial findings within 24 hours of all FOD discoveries occurring when an aircraft is in the process of the Programmed Depot Maintenance/Functional Test process. As information becomes available, updates (to include the final report) will also be provided to the owning unit, and applicable customer support representative.

14.19.2.19. (Added) 309 AMXG will install bumper magnets on selected flight line accessible vehicles year-round, unless the safety office deems inclement weather has rendered the magnet a hazard or snow exceeds the ground clearance, at which time it may be removed. It is recommended 309 AMARG and 514 FLTS also implement the use of bumper mounted magnets. 309 AMXG transportation flight, 571st Aircraft Maintenance Squadron (571 AMXS), 572nd Aircraft Maintenance Squadron, and 573rd Aircraft Maintenance Squadron supervisors will determine the vehicles under their stewardship which travel the flightline the majority of the time. One vehicle from each squadron (two from Transportation flight) will be selected to have a bumper mounted magnet fitted and installed. Leadership may request additional magnets for other vehicles; however, each of the above mentioned squadrons will ensure at least one magnet, transportation will have two, are serviceable and in use. Magnets will be cleaned, as well as inspected, for excessive wear and cracks; at which time they will be replaced. Recommend items gathered by the magnets be collected for analysis by the group FOD FP.

14.19.4.5.10.1. (Added) All group-level appointment letters will be forwarded to the ABW FOD/DOP monitor within 30 days of appointment and will include the individual's name, office symbol and phone number. MXG FOD/DOP monitor will maintain current appointment letters for each squadron requiring a FOD/DOP FP.

14.19.4.5.10.1.1. (Added) The squadron FOD/DOP FP will be a supervisor appointed by the squadron CC/director/deputy, and serve as a point of contact for specific squadron related FOD/DOP issues. The applicable group FOD/DOP FP will coordinate all FOD/DOP related issues through their applicable squadrons.

14.19.4.5.10.2.1. (Added) Applicable to all OO-ALC groups; customer reported FOD findings will also be provided to the ABW FOD/DOP monitor.

14.19.4.5.10.3.1. (Added) Each FOD/DOP FP point will conduct periodic spot checks monthly within their areas of responsibility. Their entire area of responsibility does not require to be spot checked. OO-ALC will use the Maintenance One data base to document the periodic spot checks.

14.19.4.5.10.4.1. (Added) Additional minimum attendance from OO-ALC will also be the complex and each group FOD/DOP FP.

14.19.4.5.10.5.1. (Added) Notification will be sent up to the OO-ALC Operations Center (OC). The OC will notify the ABW FOD/DOP monitor, and any other designated personnel as per the locally developed FOD/DOP checklist and send the ABW FOD/DOP monitor an e-mail with a copy of the daily log entry for record keeping. The supervisor of the affected end item will ensure all reporting requirements are immediately accomplished and will relay this information to their respective group FOD/DOP FP. To meet the HQ AFMC 24 hour initial FOD incident reporting suspense; all engine damage (to include small turbine engines) will initially be reported as a FOD incident (unless caused

by the natural environment or wildlife) until the investigation (to include forensic sampling) substantiates otherwise. Damage determined to have been caused by a workmanship discrepancy will be considered as a contributing factor to a FOD incident, not material failure.

14.19.5.1.1. (Added) Commanders/directors/deputies will ensure appropriate personnel are provided adequate time required to conduct/support FOD/DOP investigations. When a confirmed FOD event occurs with turbine or jet engines and the damage is beyond repairable limits established in the applicable technical order, a forensic sample will be collected. The sample from the damaged area will be preserved in the event it is required to be processed by a metallurgy laboratory to aid in the investigation. Samples will be taken by group or engine shop personnel trained in collecting FOD forensic samples. The sample will be taken when the damage is readily accessible and does not require disassembly beyond the scope of the organization's capability to gain access to the damaged area. In this instance, when an asset is required to be sent to a repair and overhaul facility not associated with the OO-ALC, a request to obtain a forensic sample will accompany the asset. Forensic samples will be placed in the damaged asset's serialized historical records file/folder. The forensic sample will be placed in a sealed envelope marked "Foreign Object Damage Forensic Evidence - Do Not Open Unless to Process." An aircraft engine sample will be maintained as part of the engine data file/folder.

14.19.5.6.1.1.3. (Added) Group FOD/DOP FPs will provide known information, reference Attachment 12 of AFI 21-101, in monthly updates along with processed forensic sample analysis results.

14.19.5.6.1.1.4. (Added) When an investigation is completed, the group FOD/DOP FP will compose the final report, reference Attachment 12 of AFI 21-101 for format. For all FOD incidents which occur to contracted aircraft/components, the applicable group FOD/DOP FP will supply a copy of the initial FOD report and subsequent investigation updates to the Prime Vendor FOD POC.

14.19.5.6.1.1.5. (Added) When the damaged asset is contractor owned or being worked IAW a partnership agreement between the government and a contractor, OO-ALC Contract Management Office and Public Affairs Offices (PAO) will be contacted to assist with ensuring the initial and subsequent reports are sterilized prior to release to the contractor or otherwise outside of government channels. Some contracts are let above the OO-ALC level so request the OO-ALC Contract Management Office assist to determine the proper contract office which needs to be communicated with to facilitate the review and sterilization of information before release.

14.19.6.1.18.1. (Added) All customer-reported foreign object (FO)/FOD/DOs will be reported by the applicable weapon system specific customer support specialist through written media (e-mail) to the 309 AMXG FOD/DOP FP. This information is used to analyze FOD/DO trends and coordinate prevention methods and is reported quarterly at the complex FOD Prevention Committee Meeting. Customer-reported FOD-related Deficiency Reports (DRs) will be included in the applicable OO-ALC quality performance indicators and briefed to leadership officials.

14.19.11.4. (Added) All aircraft sheet metal technicians that are designated to perform engine intake/exhaust area maintenance tasks (e.g. engine intake rivet replacement) will receive additional FOD prevention training specific to inlet/exhaust taping procedures, control of work order residue and mandatory FOD inspection requirements. Task specific training/certification for each aircraft model, design, series (MDS) (as required) will be provided through traditional on-the-job training with a general overview taught during the initial and refresher FOD/DOP training courses. Training certifications will be documented on the applicable AF Form 797, *Job Qualification Standard Continuation,* AF Form 623, *Individual Training Record Folder,* or in the PAC record with a task identifier code for each aircraft MDS that a technician is qualified to work.

14.19.11.4.4. (Added) All AMARG mechanics must follow AMARG Check sheet #20, Engine Intake/Exhaust Maintenance, for basic engine inlet or intake and exhaust rivet replacement procedures. File completed check sheets in the aircraft work control package, or AFTO Form 781 series, and/or Aviation Resource Management System Aircrew/Mission Flight Data Document. Planners will identify any additional potential FOD hazards with precautionary measures if required on the work control document.

14.19.11.4.5. (Added) For newly assigned AMARG structural repair technicians, initial training will be conducted by the supervisor following an approved structured on-the-job training (SOJT) lesson plan with certification documented in PAC record.

14.19.11.4.6. (Added) For basic engine inlet or intake and exhaust rivet replacement procedures at 309 AMARG, use the standardized checklist. Planners will identify any additional potential FOD hazards with precaution measures if required on the work control document.

14.38.2.2. Housekeeping and contamination procedures are critical to protecting the health of workers and maintaining areas as 'free as practicable' from surface contamination. OO-ALC Break Room Checklist; OO-ALC Change and Shower Room Checklist; and OO-ALC Regulated and Transition Area Checklist are approved workplace housekeeping checklists and are available at the following SharePoint Site https://org.eis.afmc.af.mil/sites/309MXW/OSHA/Regulations%20and%20Guidence/Forms/AllItems.aspx?RootFolder=%2fsites%2f309MXW%2fOSHA%2fRegulations%20and%20Guidence%2fHouse%20Cleaning%20Plans%20OO%2dALC%2dENX&FolderCTID=&View=%7b47B05BF1%2d54DC%2d4D68%2d98FC%2d70DDAE04DC66%7d. These checklists are mandatory and will be used daily, or everyday these areas are in operation/used.

14.38.3.1. (Added) Contract Workload and Defense Contract Management Agency (DCMA). Special requirements for employee training and certification involving contract workload and DCMA will be addressed in the Statement of Work (SOW).

14.38.3.1.1. (Added) When non AFMC personnel perform maintenance as specified on AFMC WCD's, a review of the individual's qualification/certification will be performed by the AFMC production supervisor. This can be through training certificates, training business area (TBA), 623 or equivalent. Non AFMC personnel will document form 781A and attach to the WCD. Production supervisor will make a Note on the AFMC WCD stating "see attached 781A". Production supervisor will P stamp and date the Note only. Supervisor will also Note that a record review has been accomplished and the non AFMC personnel are qualified/certified to perform work. Block 36 and/or 37 will be left blank as the 781A is the audit trail.

14.38.4.6.4. (Added) When a group has internal requirements beyond the scope of this supplement, those requirements will be documented in a group operating instruction.

14.38.4.7.10. (Added) Group PAC Managers will initiate all waivers and extensions to regulations in writing and submit to the OO-ALC PAC Manager along with the Staff Summary Sheet for routing to OO-ALC. If approved it shall be submitted to HQ AFMC/A4D.

14.38.4.8.6. (Added) For employees loaned less than 30 days the supervisor of record will make Production Acceptance Certification Standard System (PACSS) records available to the gaining supervisor for certification checks. The supervisor of record maintains responsibility for the employee's certifications.

14.38.4.8.7. (Added) Notify their squadron/group maintenance training and PAC manager when an employee is transferred, retired, or terminated.

14.38.14. (Added) PAC Documentation. Maintenance Training Flight (MTF) OO-ALC PAC Manager will be contacted when there has been a mishap or another formal investigation requiring PAC certification verification. Impoundment of the production Training Scheduling System (TSS) (PAC/electronic training record [ETR]) database due to mishaps, formal investigations or direction by higher authority, will be accomplished by notifying TSS/PAC PMO and requesting a snapshot of the TSS (PAC/ETR) database.

14.39.2. (Added) Special Skills Qualification (SSQ) Requirements. SSQ testing using technical data will be an open book test with exception to emergency procedures or instructions/regulations stating otherwise.

14.39.8.2.9.1. (Added) The Supervisor will forward the completed SSQ worksheet shall be forwarded to the group PAC program manager.

14.39.8.2.9.1.1 (Added) All group SSQ worksheets will be retained by the group PAC program manager until it is superseded or is no longer applicable.

14.39.8.3.4. (Added) AMARG engine run-up qualification procedures may differ depending on aircraft status at AMARG. Training must meet minimum requirements of AFI 11-218, *Aircraft Operation and Movement on the Ground,* and this instruction. AMARG will use other agency engine run-up qualification officials and course control documents provided by the owning branch of service when practical and feasible. When training is provided locally, use classroom instruction, SOJT, applicable course control documents and applicable aircraft TO series -1 and -2.

14.39.8.9.4. (Added) Aircraft cabin/cockpit/fuselage pressurization local procedures for training requirements shall be established by individual groups as applicable.

14.39.8.11.3. (Added) At OO-ALC, flight control rigging applies to all aircraft and cruise missiles.

14.39.8.24. (Added) H-70 (Hydrazine) Fuel Spill Management.

14.39.8.24.1. (Added) Regulatory Documents. TO 1F-16( )-2-49GS, *Emergency Power System*; TO's 1F-16( )-2-49JG-001, *Emergency Power System; Block 50/52*; TO 1F-16( )-2-49JG-002, *Emergency Power System;* TO 1F-16( )-2-49JG-003, *Emergency Power System;* TO 42B1-1-18, *Handling of H-70 Fue*l, Hydrazine-Water Fuel, and other applicable directives.

14.39.8.24.2. (Added) Application. Hydrazine Response Team.

14.39.8.24.3. (Added) Qualification. After completion of training, the individual shall be able to demonstrate proficiency through written or oral and practical examinations (simulated) and be able to complete a 25-question written examination test with a minimum score of 85 percent (corrected to 100 percent).

14.39.8.24.4. (Added) Requalification. Annually, or whenever an individual fails to demonstrate adequate proficiency.

14.39.8.24.5. (Added) Disqualification. Observed deficiencies, DRs, failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable

technical directives, is grounds for immediate disqualification. Initial SSQ requirements shall be met to be re-qualified.

14.39.8.25 (Added) Portable Milling.

14.39.8.25.1. (Added) Regulatory Documents. Time Compliance Technical Order (TCTO) 1947, *341 Bulkhead,* 1910 *462/479 Visual Bulkhead Inspection*, 2034, *Mill 462 and Replace 479 Bulkhead,* 2317, *Modified Wing Assembly,* 2316 *Station 2 Reinforcement*.

14.39.8.25.2. (Added) Application. Individual operates portable milling unit in modification of some areas of the F-16 aircraft.

14.39.8.25.3. (Added) Qualification. After completion of training, the individual shall be able to demonstrate proficiency through oral and practical examinations.

14.39.8.25.4. (Added) Requalification. Annually, or whenever an individual fails to demonstrate adequate proficiency.

14.39.8.25.5. (Added) Disqualification. Observed deficiencies, DRs, failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable technical directives, is grounds for immediate disqualification. Initial SSQ qualification requirements shall be met to be requalified.

14.39.8.26. (Added) Liquid Nitrogen. Regulatory Documents. *TO 1F-16 ( )-3-1, Structural Repair, TO 00-25*-172, *Ground Servicing Of Aircraft And Static Grounding/Bonding (ATOS),* and AFI 91-203.

14.39.8.26.1. (Added) Regulatory Documents. *TO 1F-16 ( )-3-1, Structural Repair, TO 00-25*-172, and AFI 91-203.

14.39.8.26.2. (Added) Application. Personnel who use liquid nitrogen for panel or structural removal on aircraft.

14.39.8.26.3. (Added) Qualification. Granted after successful completion of the required training and a satisfactory proficiency demonstration to a qualification official.

14.39.8.26.4. (Added) Requalification. An annual written proficiency examination and a practical demonstration of proficiency to the qualification official. Shall be able to pass a written test with a minimum score of 80 percent (corrected to 100 percent).

14.39.8.26.5. (Added) Disqualification. Observed deficiencies, DRs, failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable technical directives, is grounds for immediate disqualification. Initial SSQ qualification requirements shall be met to be requalified.

14.39.8.27. (Added) A10 Auxiliary Power Unit (APU).

14.39.8.27.1. (Added) Regulatory Documents. TO 1A-10A-2-4JG-1, *Ground Handling,* TO 1A-10A-2-12JG-1, *Servicing,* TO 1A-10A-2-71JG-2, *Power plant/APU Operation and Trim,* AFI 91-202, *The US Air Force Mishap Prevention Program*, AFI 91-203.

14.39.8.27.2. (Added) Application. All personnel required to operate APU on aircraft.

14.39.8.27.3. (Added) Qualification. Granted after successful completion of the required training and a satisfactory proficiency demonstration to a qualification official and pass a written test with a minimum score of 85 percent (corrected to 100 percent).

14.39.8.27.4. (Added) Requalification. Every 12 months, demonstrating proficiency to a SSQ official, shall be able to pass a written test with a minimum score of 85 percent (corrected to 100 percent).

14.39.8.27.5. (Added) Disqualification. Observed deficiencies, DRs, failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable technical directives, is grounds for immediate disqualification. Initial SSQ requirements shall be met to be requalified.

14.39.8.28. (Added) Foreign Object Inspection/Maintenance (A10 White Area).

14.39.8.28.1. (Added) Regulatory Documents. TO 1A-10A-2-27MS-1, *Environmental Control System,* TO 1A-10A-3-1, *Structural Repair,* TO 1A-10A-2-27JG-4, *Flight Control, Pitch,* TO 1A-10A-2-27JG-5, *Flight Control, Roll.*

14.39.8.28.2. (Added) Application. Aircraft Mechanics, Aircraft Electricians, and Aircraft Pneudraulics.

14.39.8.28.3. (Added) Qualification. After completion of training, the individual shall demonstrate proficiency through oral and practical examinations and pass a written test with a minimum score of 85 percent (corrected to 100 percent).

14.39.8.28.4. (Added) Requalification. An annual requirement consisting of a demonstration of continued proficiency to a qualification official and the satisfactory passing of the written examination.

14.39.8.28.5. (Added) Disqualification. Failure to maintain the high level of proficiency needed to ensure the safe closure of white area or failure to comply with all published directives applicable to the particular weapon system involved with white area maintenance. Initial SSQ requirements shall be met to be requalified.

14.39.8.29. (Added) Aircrew Life Support.

14.39.8.29.1. (Added) Regulatory Documents. Applicable weapons system TO's, checklists, and job guides, applicable AFOSH standards, and directives.

14.39.8.29.2. (Added) Application. Applies to all personnel assigned to maintain and repair aircraft logistics specialists (ALS) equipment.

14.39.8.29.3. (Added) Qualification. Granted after completion of formal training, and a demonstration of proficiency. Successfully complete a written test, 20 question minimum, with a passing score of 80 percent (corrected to 100 percent).

14.39.8.29.4. (Added) Requalification. An annual requirement consisting of demonstration of continued proficiency to a SSQ official and the successful completion of a written examination, 20 question minimum, with a passing score of 80 percent (corrected to 100 percent).

14.39.8.29.5. (Added) Disqualification. Observed deficiencies, DRs, failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable technical directives, is grounds for immediate disqualification. Initial SSQ qualification requirements shall be met to be requalified.

14.39.8.30. (Added) Resistance Brazing.

14.39.8.30.1. (Added) Regulatory Documents. TO 00-25-252, *Aeronautical equipment welding*, AFI 91-203, The American Welding Society Handbook, checklists, and directives.

14.39.8.30.2. (Added) Application. Applies to electrical equipment repair technicians who perform resistance brazing on airborne, and ground generators.

14.39.8.30.3. (Added) Qualifications. Shall have completed resistance brazing and soft solder methods training. Granted after complying with all qualification instructions listed in the resistance brazing SSQ guide and checklist. After completion of training the individual shall demonstrate proficiency through oral and practical examinations and pass a written test with a minimum score of 80 percent (corrected to100 percent).

14.39.8.30.4. (Added) Requalification. Required every 12 months, consisting of a demonstration of continued proficiency to a qualification official and the satisfactory passing of a written examination.

14.39.8.30.5. (Added) Disqualification. Observed deficiencies, DRs, becoming overdue in training requirements, or failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable technical directives can be grounds for immediate disqualification. Initial SSQ qualification requirements shall be met to be re-qualified.

14.39.8.31. (Added) Hypergolic Fuel Monomethylhydrazine/Nitrogen Tetroxide (MMH/N204), Leaks and Spills Response.

14.39.8.31.1. (Added) Regulatory Documents. Applicable weapons systems, general TO's and other applicable technical and safety directives.

14.39.8.31.2. (Added) Application. Liquid Fuel Engine Mechanics, Wage Grade (WG)/Wage Lead (WL)-8675-08 or higher.

14.39.8.31.3. (Added) Qualification. After completion of training, the individual shall be able to demonstrate proficiency through written or oral and practical examinations (simulated) and be able to complete a written examination with a minimum passing score of 85% (corrected to 100%).

14.39.8.31.4. (Added) Requalification. Annually, or whenever an individual fails to demonstrate adequate proficiency.

14.39.8.31.5. (Added) Disqualification. Observed deficiencies or deviations from technical data, safety violations, DRs, failure to maintain the required level of proficiency, or failure to perform the required procedures IAW the applicable technical directives can be grounds for immediate disqualification. Initial SSQ qualification requirements must be met to be re-qualified.

14.40.7. (Added) TMDE Out of Tolerance/Risk Assessment (OOT/RA) Responsibilities: OO-ALC group leadership, in conjunction with the 18th Fighter Wing shall ensure local risk analysis/recall procedures are developed, coordinated, published, and maintained for AFMC, 309/EMXG operation accomplished at Kadena Air Base.

14.40.7.1. (Added) 709 MXSS Precision Measurement Equipment Lab (PMEL) will assure OOT/RA is e-mailed to owning TMDE coordinator and assigned Group Engineering Office (EN) office or designee.

14.40.7.2. (Added) OO-ALC TMDE Monitors shall:

14.40.8. (Added) Forward the OOT/RA letter to the appropriate TMDE owning supervisor within one working day. Include applicable correspondence from PMEL. If TMDE is used on multiple weapon systems and/or components, the TMDE monitor shall initiate an e-mail to all production TMDE owning supervisors.

14.40.8.1. (Added) Letter for Not Repairable This Station Disposition of TMDE.

14.40.8.2. (Added) Letter for Notification of TMDE Out-of-Tolerance Condition.

14.40.8.3. (Added) Letter for Recall of TMDE. **Note:** The e-mail shall contain the TMDE part number, Facility and Equipment Maintenance System (FEMS) number, serial number, manufacturer's name, nomenclature, location, description of the discrepancy identified by PMEL, and reference this instruction.

14.40.9. (Added) Group EN or designee shall:

14.40.9.1. (Added) Within one working day after receipt of the risk assessment e-mail, assign a responsible and knowledgeable individual to perform the risk assessment. The risk assessment shall have a suspense of not more than seven working days from date of receipt. Individuals performing the risk assessment shall:

14.40.9.2. (Added) Use all avenues available; i.e., practical knowledge/experience, technical order (TO) requirements, engineering assistance, and information provided by the PMEL certifier, to determine if the out-of-tolerance condition of the TMDE had an adverse effect on the product quality and/or created an unsafe condition. **Note:** (Added) If additional information/clarification is required, the individual performing the risk assessment shall contact the 709 MXSS Quality Office for assistance.

14.40.9.3. (Added) The responsible individual shall return the completed risk assessment form OO-ALC Form 209, *Non-Compliance and Out of Tolerance Risk Assessment* to the group EN office or designee.

14.40.9.4. (Added) Upon receipt, review the completed risk assessment package. If there is no compromise to quality or safety and the Group EN office or designee, Quality and TMDE owning supervisor agrees with the risk assessment, he/she shall sign and date the assessment and send/forward the response to Group EN office or designee. If the TMDE owning supervisor does not agree with the risk assessment results, he/she shall discuss the reasoning for non-concurrence with the individual/s involved. When satisfied with the results, he/she shall document concurrence as previously stated.

14.40.9.5. (Added) The Group EN office or designee will complete the tracking metric chart by the fifth working day of the month and forward to the Group Quality office. The Group Quality office will include the metrics chart in the month Quality Management Review (QMR) brief.

14.40.10. (Added) OO-ALC Group EN or designee shall: Initiate recall procedures if the risk assessment concludes that the out-of-tolerance TMDE affected the quality of the product. Recall procedures shall include, but not be limited to, re-inspection of products in work, contact (telephone, e-mail, etc.) with the system program director for additional guidance, etc. Copies of all correspondence shall be attached to the risk assessment package to document all action taken. **Note:** In the event the risk assessment and/or recall action affects multiple weapon systems and/or components, the results shall be reviewed and/or coordinated by all TMDE owning

supervisors involved. Coordination will be documented on OO-ALC Form 209. The Group EN or designee office may keep copies of all correspondence with the risk assessment package.

14.40.11. (Added) OO-ALC Group EN or designee Shall: Maintain a file of all completed risk assessment packages (letters, e-mail copies and supporting documents etc.) IAW AFRIMS T21-11 R28.00. Filing method will be determined by the Group EN or designee office. However, the files must be available upon request and maintained in an auditable manner.

14.40.12. (Added) 309 AMARG Handling And Transportation Of TMDE.

14.40.12.1. (Added) 309 AMARG Responsibilities and Procedures.

14.40.12.1.1. (Added) Branch chiefs will assign a primary and an alternate TMDE monitor from each RCC. They will update letters of appointment annually or as changes occur, and send to 576 AMRS/MXDPED who will forward a copy to the 355th Component Maintenance Squadron, TMDE Flight (355 CMS/MXMD).

14.40.12.1.2. (Added) 309 AMARG General Procedures for CAT 2 and CAT 3 TMDE.

14.40.12.1.2.1. (Added) Prior to procuring any TMDE equipment, the RCC equipment custodian will coordinate the requisition through 576 AMRS/MXDPED and the TMDE laboratory.

14.40.12.1.2.2. (Added) 309 AMARG RCC TMDE monitor will:

14.40.12.1.2.2.1. (Added) On receipt of new TMDE and prior to initial use, coordinate with 576 AMRS/MXDPED to ensure calibration requirements are met to comply with the applicable maintenance technical data. See TOs 00-20-1 *Airspace Equipment Maintenance*, 00-20-14 and 33K-1-100-CD-1; and NAVAIR 17-35MTL-1, Metrology Requirements List (METRL) software. Each RCC TMDE monitor, 309 AMARG/MXDPBD TMDE monitor, and the 355 CMS/MXMD PMEL will jointly determine, IAW TO 00-20-14, those TMDE items that must be sent off base for commercial calibration. Coordinate with 355th Contracting Squadron, Base Acquisition Flight (355 CONS/MSCB) to determine if annual or less frequent calibration may be done on the RCC TMDE monitors' Government Purchase Card or if more frequent calibrations warrant an annual contract.

14.40.12.1.2.2.2. (Added) IAW TO 00-20-1, use AFTO Form 244, or computer generated Forms. The AFTO Form 244 may be used as follows:

14.40.12.1.2.2.2.1. (Added) If the TO directs visual inspections for prior to use, or for daily, weekly or monthly inspections.

14.40.12.1.2.2.2.2. (Added) For equipment with known failures between required inspections by 309 AMARG/MXDPBD or the TMDE Laboratory.

14.40.12.1.2.2.2.3. (Added) AMARG equipment that requires periodic servicing such as oil changes, air/nitrogen, etc.

14.40.12.1.2.2.3. (Added) AMARG; if TMDE (Navy or Army items) are not listed in the applicable calibration TO, submit an AFTO Form 45, *Request for Calibration Responsibility Determination*, to MABFB to request a calibration determination. 309 AMARG/MXDPBD will forward the AFTO Form 45, *Request for Calibration Responsibility Determination* to 355 CMS/MXMD. The RCC TMDE monitor may be required to submit applicable equipment TOs.

14.40.12.1.2.2.4. (Added) AMARG ensure that newly arrived items are scheduled for CAT 2 or CAT 3 calibration or inspection within 30 days after arrival.

14.40.12.1.2.2.5. (Added) AMARG determine how critical are measuring devices that are not listed for calibration in TOs by considering how the device is used, i.e., is it an accessory to a measuring device? With AMARG/MXDPBD assistance the owner and user have to establish the most definitive method; for example, a primary gauge used to service a system to a specific pressure and within a particular tolerance, would be critical and require calibration.

14.40.12.1.2.2.6. (Added) AMARG before sending TMDE to 576 AMRS/MXDPED, ensure TMDE meets the condition listed in TOs 00-20-14, Section III and in TO 33-1-27, *Logistic Support Of Precision Measurement Equipment,* 4825 *Electrical and Electronic Properties Measuring and Testing Instruments,* 4830 *Chemical Composition Determining Instruments,* 4835 *Physical Properties Testing Equipment, 4840 Laboratory Equipment and Supplies,* 4845 *Time Measuring Instruments,* 4850 *Optical Instruments,* 4855 *Geophysical and Astronomical Instruments,* 4870 *Scales and Balances,* 4875 *Drafting, Surveying and Mapping Instruments,* 4880 *Liquid and Gas Flow, Liquid Level, and Mechanical Measuring*. Also, as a minimum perform the following:

14.40.12.1.2.2.6.1. (Added) Brush off dust and dirt and clean any oil and grease from the item.

14.40.12.1.2.2.6.2. (Added) Place protective plastic caps on any exposed connectors and install plugs or caps to protect threads.

14.40.12.1.2.2.6.3. (Added) Secure all loose cabling to prevent damage. **Note:** DO NOT use pressure sensitive tape on TMDE.

14.40.12.1.2.2.6.4. (Added) Clean all gauges used on oxygen and oil-free nitrogen systems and place in individual plastic bags IAW TO 37C11-1-1, *Maintenance Instruction - Cleaning of Pressure Gages Used on Liquid Oxygen Systems,* and annotate this compliance on AFTO Form 350, *Reparable Item Processing Tag.*

14.40.12.1.2.2.6.5. (Added) If the TMDE items have batteries, inspect the batteries for corrosion and ensure they are serviceable.

14.40.12.1.2.2.6.6. (Added) CAT 3 pressure gauges - drain oil or hydraulic fluid from bourdon element.

14.40.12.1.2.2.6.7. (Added) Bag all gauges in plastic and cap all connectors.

14.40.12.1.2.2.6.8. (Added) Plug-in type electronic TMDE must be bagged (plastic) and connectors capped.

14.40.12.1.2.2.6.9. (Added) Attach an AFTO Form 350 or a similar computer generated form with a complete inventory of accessories listed in AFTO Form 350 block 14 or the appropriate space on the computer form to TMDE with ancillary equipment such as probes, shunts, plug-ins, etc. Accessories not required for the calibration need not be delivered to TMDE scheduling.

14.40.12.1.2.3. (Added) AMARG/MXDPBD will:

14.40.12.1.2.3.1. (Added) Monitor all incoming TMDE.

14.40.12.1.2.3.2. (Added) Ensure TMDE calibration forms are filled out IAW TO 00-20-14.

14.40.12.1.2.3.3. (Added) Sign and issue Part II of the AFTO Form 350 or sign the signature block on the computer form and give to the RCC as receipt for the equipment.

14.40.12.1.3. (Added) AMARG Scheduled Maintenance.

14.40.12.1.3.1. (Added) IAW TO 00-20-14 the 355 CMS/MXMD will provide the following computer products to the RCC, showing the TMDE scheduled maintenance information:

14.40.12.1.3.1.1. (Added) AMARG TMDE Master ID listing:

14.40.12.1.3.1.1.1. (Added) IAW PMEL Automated Management Subsystem (PAMS), PAMS Implementation Conversion will assign and control ID numbers for all equipment processed through the 355 CMS/MXMD.

14.40.12.1.3.1.1.2. (Added) All changes to the TMDE Master ID list will be submitted to MABFB who will submit to TMDE scheduling. This is necessary to give the scheduling personnel control over all changes, additions, and deletions against the TMDE Master ID listing.

14.40.12.1.3.1.1.3. (Added) TMDE scheduling will review all PAMS correction sheets for validity and then enter into PAMS.

14.40.12.1.3.1.1.4. (Added) TMDE scheduling controls and prints all TMDE CAT 3 machine products.

14.40.12.1.3.1.2. (Added) AMARG Monthly Equipment 90-day Forecast Schedule:

14.40.12.1.3.1.2.1. (Added) The monthly schedule will be available on the first duty day following the 22nd of each month, and will be forwarded to the TMDE monitor through MABFB.

14.40.12.1.3.1.2.2. (Added) AMARG/MXDPBD will ensure the required actions are taken by the RCC upon receipt of the monthly schedule, e.g., accuracy of ID, part, serial numbers, NSN, due dates, etc.

14.40.12.1.3.1.3. (Added) AMARG RCC Master ID listing:

14.40.12.1.3.1.3.1. (Added) The RCC Master ID listing will be available the first duty day following the 6th of the month and will be forwarded to the RCC TMDE monitors through MABFB.

14.40.12.1.3.1.3.2. (Added) The RCC TMDE monitors will take the following actions upon receipt of the master ID listing:

14.40.12.1.3.1.3.2.1. (Added) Verify all information on the listing.

14.40.12.1.3.1.3.2.2. (Added) Make all corrections in red ink.

14.40.12.1.3.1.3.2.3. (Added) Sign the listing and return a copy to 576 AMRS/MXDPBD to arrive no later than the 20th of the month.

14.40.12.1.3.2. (Added) AMARG RCC will:

14.40.12.1.3.2.1. (Added) Fill out a hand receipt for each TMDE item scheduled for routine inspection. TMDE personnel are required to fill out AFTO Form 350, Part I, to Note repair or discrepancies.

14.40.12.1.3.2.2. (Added) Retain the signed AFTO Form 350, Part II, or computer form as receipt of equipment routed to TMDE.

14.40.12.1.3.2.3. (Added) At least 1 week before the inspection due date, schedule inspections by filling out an AFTO Form 350 for *on-site calibration* items, and TMDE equipment that is part of a test stand or has to be calibrated while on a rack, cart or other device. **Note:** In block 15, enter ON-SITE INSPECTION; include the building number of the TMDE and inspection due date and all the information as shown. Hand-carry the AFTO Form 350 to ?/MABFB.

14.40.12.1.3.2.4. (Added) AMARG/MXDPBD will pick up TMDE items due inspection as follows:

14.40.12.1.3.2.4.1. (Added) No later than 3 workdays before the scheduled due date.

14.40.12.1.3.2.4.2. (Added) On the Friday prior to the inspection due date, if the inspection due date falls on a weekend.

14.40.12.1.3.2.4.3. (Added) Five days prior to inspection due date, if inspection due date falls on a holiday.

14.40.12.1.3.3. (Added) AMARG IAW TO 00-20-14 the 355 CMS/MXMD will send a *Delinquent TMDE Item Inspection* letter to the 309 AMARG CC for items not received by noon of the third day after inspection due date.

14.40.12.1.3.3.1. (Added) TMDE that is overdue calibration must be removed from service by 2400 hours on the date due calibration (DDC).

14.40.12.1.3.3.2. (Added)IAW TO 00-20-14, a letter requesting an extension may be submitted by the RCC TMDE monitor describing the TMDE involved, the calibration due date, the reason why the calibration cannot be accomplished, and the estimated date calibration action can be initiated. Send approved letter through ?/MABFB to the TMDE Laboratory.

14.40.12.1.3.4. (Added) AMARG, upon receipt of items from the RCC, 576 AMRS/MXDPBD will:

14.40.12.1.3.4.1. (Added) Protect the TMDE with cushioning material, such as foam rubber, bonded rubberized hair, etc., to prevent damage when transporting the TMDE to the TMDE laboratory.

14.40.12.1.3.4.2. (Added) Coordinate with TMDE laboratory on inspection progress, part shortages, etc.

14.40.12.1.3.4.3. (Added) Pick up the TMDE when notified that the inspection is completed.

14.40.12.1.3.4.4. (Added) Deliver the inspected TMDE to the RCC and exchange the hand receipt for the item.

14.40.12.1.3.4.5. (Added) Process delinquen*t* items to the TMDE Laboratory on a priority basis.

14.40.12.1.4. (Added) AMARG Initial Inspection and Unscheduled Requirements.

14.40.12.1.4.1. (Added) The RCC will fill out an AFTO Form 350, attach it to the TMDE and notify 576 AMRS/MXDPBD that TMDE is ready for pickup.

14.40.12.1.4.2. (Added) AMARG/MXDPED will:

14.40.12.1.4.2.1. (Added) Process TMDE unscheduled maintenance requirements to the TMDE laboratory on a priority basis.

14.40.12.1.4.2.2. (Added) Coordinate new TMDE with TMDE scheduling prior to delivery to ensure standards and technical data are on hand at PMEL.

14.40.12.1.5. (Added) AMARG Radiation Detection Equipment (RADIAC) Special Procedures.

14.40.12.1.5.1. (Added) The user will remove batteries from the RADIAC, place in plastic bags, and transport the RADIAC and batteries to 576 AMRS/MXDPBD.

14.40.12.1.5.1.1. (Added) If equipment is in use and the instruments are maintained with the batteries installed, the user will inspect and operationally check applicable TOs at 2-week intervals.

14.40.12.1.5.1.2. (Added) For equipment not in regular use, the user will remove the batteries to prevent damage from leaking batteries, attach AFTO Form 244 and keep a record of inspections.

14.40.12.1.5.2. (Added) AMARG/MXDPBD will check all RADIAC batteries for serviceability. The user will provide serviceable replacements, when required.

14.40.12.1.5.3. (Added) AMARG all RADIAC equipment will be supplied with a calibration date chart, or a computer generated equivalent, that shows the final recorded values obtained at all calibration points required on each range of the test instrument.

14.41 (Added) OO-ALC complex Technical Data Program Office Program Manager.

14.41.1. (Added) Designated by the OO-ALC complex engineering director or designee.

14.41.2. (Added) Coordinates with headquarters providing interpretation and guidance on technical data issues and processes when not defined in other directives.

14.41.3. (Added) As required develops policies and procedures on technical data program requirements when not defined in other directives.

14.41.4. (Added) As required attends monthly Complex Technical Order Management meetings. Elevates issues and concerns to this committee impacting the technical data program.

14.41.5. (Added) Participates as a subject matter expert in the development of command and local technical data training courses.

14.41.6. (Added) Government Organizations participating in contract Technical Order Distribution Office (TODO) services.

14.41.6.1. (Added) Ensures main and sub-account T.O. libraries have a primary and alternate Government T.O. Library POCs appointed using the OO-ALC Form 536 *Government Technical Order (TO) Library POC Appointment/Change*, For Official Use Only (FOUO) when filled in. Route OO-ALC Form 536 (FOUO) to Maintenance Support Group-Mission Support organization (309 MXSG/OBM).

14.41.6.2. (Added) Ensures appointed main and sub-account Primary and Alternate Government T.O. Library POCs receive Government T.O. Library POC Training AFMC Course # MHPMAS0004300CB within 90 days of appointment. Completed training will be documented in the TSS and if applicable, annotated in Section II of the employees PAC record.

14.41.6.3. (Added) Ensures the T.O. charge out system procedures identified in 14.41.5. and are enforced. Charge out system also applies to Commercial Off the Shelf (COTS) manuals.

14.41.6.4. (Added) Ensures technical data extract procedures in chapter 19 are enforced.

14.41.6.5. (Added) Ensures all appointed main and sub-account Primary and Alternate Government T.O. Library POCs perform and document an annual T.O. library "Technical Order Library Requirements Review."

14.41.6.6. (Added) The organization will ensure any "new and/or additional" T.O. requirements the Government T.O. Library POC routes a completed OO-ALC Form 535, *Government Library Technical Order Distribution Requirements* to the TODO. If additional requirements result in increased costs, the OO-ALC/OBC Contract Functional Manager will be contacted and forward the request to OO-ALC/PKX Contract Officer who will request a cost proposal from the contractor.

14.41.6.7. (Added) Ensures a COTS POC is appointed for the purpose of providing oversight ensuring proper management, tracking, and controlling of COTS manuals required by any Resource Cost Center (RCC) within the organization. The level of management for this POC is at OO-ALC complex OO-ALC group discretion. Additionally, each RCC maintaining COTS manuals will assign a RCC POC see **paragraph 14.41.7.** for the RCC COTS POC duties and responsibilities.

14.41.6. (Added) Government T.O. Library POC:

14.41.6.1. (Added) Performs an annual T.O. library Technical Order Review and documents review by printing name and date review completed on first page of ETIMS library requirement listing. Ensures assigned sub-account POCs perform and document annual Technical Order Reviews on provided requirement listing. Maintains documented Technical Order Review in main POC binder. Annual technical reviews shall be performed by the end of the month the review is due. **Note:** (Added) Sub-account POCs are not required to maintain hard copy documentation of annual "Technical Order Reviews" completions. The main T.O. library POC will maintain all T.O. library sub-accounts documentation of Technical Order Review completion.

14.41.6.2. (Added) Notifies the designated TODO POC to be added to daily T.O. distribution listing.

14.41.6.3. (Added) Main T.O. Library POC binders will contain the following minimum documentation.

14.41.6.3.1. (Added) Completed and legible OO-ALC Form 536.

14.41.6.3.2. (Added) As applicable submitted OO-ALC Form 535. This form can be removed when all requested updates have been accomplished by contract TODO personnel and verified by the main and/or sub-account primary or alternate Government POC.

14.41.6.3.3. (Added) Documented annual T.O. library requirements reviews for all sub-accounts for that main T.O. file.

14.41.6.3.4. (Added) If applicable, completed AFMC Form 310, Lost/Found Item Report.

14.14.6.3.5. (Added) Copy of training certificate completion for Government T.O. Library POC Training AFMC Course # MHPMAS0004300CB.

14.41.6.4. (Added) Sub-account T.O. library binders will contain the following minimum documentation and filed at the end of that specific T.O. library.

14.41.6.4.1. (Added) Completed and legible OO-ALC Form 536.

14.41.6.4.2. (Added) Submitted OO-ALC Form 535

14.41.6.4.3. (Added) Copy of training certificate completion for Government T.O. Library POC Training AFMC Course # MHPMAS0004300CB

14.41.7. (Added) Group quality organizations shall perform and document required organizational T.O. inspections IAW established guidance contained in T.O. 00-5-1 and this supplement.

14.41.7.1.1. (Added) Government quality organization identified deficiencies against the contract TODO will be entered in the QIMSS and routed to the OO-ALC complex COR for corrective and preventative actions.

14.41.7.1.2. (Added) Government QAS identified T.O. deficiencies against the government will be entered in QIMSS and routed against the applicable organization RCC supervisor and/or Government T.O. Library POC for corrective and preventive actions.

14.41.8. (Added) T.O. Charge Out System. Removed T.O.s will be returned within a maximum of five working days to the library. The following procedures shall be used:

14.41.8.1. (Added) OO-ALC organizations will use AF Form 614, *Charge Out Record,* to account for any "T.O. binder" removed from the vicinity of a T.O. library. Minimum documentation requirements for the AF Form 614 are as follows: 1) T.O. binder number 2) legible name and phone number 3) date binder removed from library. The completed AF Form 614 will be placed in the same location of the removed T.O. binder. Once the T.O. binder is returned, remove the AF Form 614 and line through the information.

14.41.8.2. (Added) If a T.O. is required in excess of five working days an AF Form 1297, *Temporary Issue Receipt* will be used and attached to the AF Form 614 and placed in the same location of the removed T.O. and/or T.O. binder. T.O.s signed out on an AF Form 1297 will not be signed out for more than 30 consecutive calendar days. T.O.s signed out to support TDY operations are excluded from the 30 consecutive calendar day requirement. T.O.s signed out on AF Form 1297 in direct support of TDY operations will be returned to the T.O. library within 2 working days upon return to home station. Once the T.O. and/or binder is returned, remove the AF Form 614 and line through the information. Provide the AF Form 1297 to the individual (or destroy). **Note:** Any deviation from the above T.O. charge out procedures will be fully coordinated through the OO-ALC Complex Technical Data Program Manager.

14.41.9. (Added) Lost T.O. The Government T.O. Library POC will be notified when any T.O. and/or T.O. binder is missing. For AMARG the appropriate Technical Order Distribution Account will be notified when any T.O. and/or T.O. binder is missing. If the T.O. can't be found within two (2) hours an AFMC Form 310, Lost/Found Item Report will be initiated by the designated "Government T.O. Library POC." Follow procedures as required by your organization, the same as reporting a lost item. A copy of the completed AFMC Form 310 will be filed in POC binder.

14.41.10. (Added) Recourse Control Center (RCC) Commercial Off The Shelf (COTS) POC.

14.41.10.1. (Added) Appointed in writing by RCC supervisor.

14.41.10.2. (Added) Ensures once a T.O. number is assigned; the appropriate Government T.O. Library POC is notified of the new T.O. requirement. The Government T.O. Library POC will submit the required paperwork to the Government Owned Contractor Operated Technical Order Distribution Office (GOCO TODO) personnel requesting the T.O. be requisitioned and maintained. See **paragraph 14.41.2.7.**

14.41.10.3. (Added) Determines if a T.O. number is assigned to all centrally acquired equipment manuals maintained by the RCC. If the manual has a T.O. number assigned, turn the manual over to the Government T.O. Library POC so this POC can notify the appropriate contract TODO personnel to add the T.O. to the library and update T.O. records. See **paragraph 14.41.2.7.**

14.41.10.4. (Added) Establishes and maintains a COTS library for manuals not requiring a T.O. number. Location of the library will be locally determined; however, every effort should be made to locate the library in close proximity to existing T.O. libraries so there is no question as to the availability of the manuals. The COTS library must be accessible to all who use the equipment. Ensures COTS manuals are numbered to maintain positive control and filed in numerical and/or alphabetical sequence. Numbering will be locally determined and will be consistent throughout the group.

14.41.10. 5. (Added) Develops and maintains a COTS library binder. Binder shall be placed with the COTS library. At a minimum the binder shall contain:

14.41.10.5.1. (Added) Master COTS manual listing for manuals contained in COTS library. At a minimum the master listing will contain the following elements; manufacturer, nomenclature, and equipment supported.

14.41.10.5.2. (Added) RCC COTS POC appointment letter.

14.41.10.6. (Added) COTS library shall have an annual technical review ensuring:

14.41.10.6.1. (Added) The need for each manual still exists and the correct manual is on file for equipment possessed. Each manual in the COTS library shall have a list of effected page (LEP) check. Annotate completion of LEP on COTS title page or LEP with the date, reviewer initials. Page checks are required for brief manuals or COTS manuals without LEPs and need to be documented with date and reviewer initials.

14.41.10.6.2. (Added) Add any new COTS manuals to master COTS listings ensuring binders containing new COTS manuals are numbered.

14.41.10.6.3. (Added) Annual technical review shall be documented on the first page of the master COTS Listing. Subsequent reviews will require lining out the old annual review date and entering the new annual review date.

14.41.10.6.4. (Added) Annual technical reviews shall be performed by the end of the month the review is due.

14.41.10.7. (Added) Ensures the charge out system identified within **paragraph 14.41.5.** of this instruction is enforced and used to account for all COTS manuals removed from the COTS library. COTS manuals will be returned within five working days or at the request of the COTS POC.

14.41.10.8. (Added) Recommends development of AFMC Form 561, *Process Order*, to establish procedures for equipment operations where COTS manuals are not available or inadequate IAW AFI 21-101 AFMC_SUP Chapter 19.

14.42. (Added) OO-ALC Electrostatic Discharge (ESD) Control Program. The primary purpose of this program is to establish, describe, and assign specific responsibilities and procedures for an ESD Control Program within the OO-ALC. This program identifies operating procedures that apply to all employees assigned to OO-ALC who handle Electrostatic Discharge Sensitive items and will minimize ESD damage to electrical/electronic parts, assemblies, and equipment repaired, tested, operated, stored, and transported within OO-ALC. It is intended to supplement existing ESD control guidance through reference and by providing basic procedures where none currently exist. Also provides supplemental information to support TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment*, Section VII, *Electrostatic Discharge Control*, takes precedence over all referenced standards and handbooks. This instruction supports the OO-ALC quality systems.

14.42.1. (Added) Background. Static electricity is an electrical charge at rest. The electrical charge is due to the transfer of electrons within a body or from one body to another. The magnitude of the charge depends on the size, shape, composition, and electrical properties that make up the bodies. The electrical charge can be changed when two substances are rubbed together, separated, or flow relative to one another. The voltage level can reach as high as 35KV (kilovolt) for a human being. The discharge of this voltage potential and electrostatic field is considered detrimental to today's electrical and electronic devices. A discharge from a human being or materials can possess current values of 1-50A. Some of today's circuits are sensitive to voltage as low as 25 volts. The approximate level of voltage for a human being to feel a static discharge is 3,500 volts. Therefore, personnel can do damage to devices without feeling it themselves.

14.42.2. (Added) Responsibilities.

14.42.2.1. (Added) Group commanders/directors will:

14.42.2.1.1. (Added) Appoint a primary and alternate group ESD Control Program Manager in writing to the OO-ALC ESD Program Manager. Appointment letters will be maintained by group ESD Control Program Managers for review.

14.42.2.2. (Added) Squadron directors will:

14.42.2.2.1. (Added) Designate primary and alternate squadron ESD POC in writing, to their group ESD Control Program Manager. Appointment letters will be maintained by the group ESD Control Program Manager.

14.42.2.3. (Added) Group ESD Control Program Manager will:

14.42.2.3.1. (Added) Maintain copies of current group ESD Control Program Manager and squadron ESD POC appointment letters.

14.42.8.2.3.2. (Added) Ensure ESD surveys are conducted by squadron ESD POC and area supervisors, identify and clarify group ESD control strategies for work areas and compile the annual area surveys into written reports.

14.42.8.2.4. (Added) Squadron ESD POC will:

14.42.8.2.4.1. (Added) Develop an effective ESD Control Program Survey tailored to their organization and work areas.

14.42.8.2.4.2. (Added) Conduct work area ESD control surveys in conjunction with each area supervisor. Each ESD work area survey will as a minimum be updated annually or when area requirements change and will be documented. Area surveys and area sensitivity will be annotated on the OO-ALC Form 237, *(ESD) Control Report of Annual Survey.* Area certification will be documented separately on an OO-ALC Form 234, *ESD Work Area Survey/Certification Certificate,* as required (See Figures14.48A1, 14.48A2). Any additions or changes to the work area between annual survey intervals can be hand written but will be incorporated as a written report when the next annual is accomplished. Survey requirements for existing and new ESD work areas are outlined in TO 00-25-234.

14.42.8.2.4.3. (Added) Provide an annual written report of the evaluation to the group ESD program manager utilizing the forms listed above to certify, by area supervisor signature, completion of the ESD area survey. Additionally the report will either be posted in the work area or in a readily accessible ESD program file once each work area survey is completed. This certification report will serve as documentation that each surveyed work area is in compliance with program directives and provide a record of the controls required in those areas. Certificate will be made available in the work area IAW T.O 00-25-234.

14.42.8.2.5. (Added) Work Area Supervisor will:

14.42.8.2.5.1. (Added) Ensure all personnel handling ESD items have initial ESD and annual refresher ESD training. Training will be documented in PAC system, TSS or other approved training data base system.

14.42.8.2.5.2. (Added) Ensure an ESD Control Report of Annual Survey and/or an ESD Work Area Survey/Certification certificate is accomplished for all areas performing maintenance on or handling ESD components. Supervisors assist the squadron ESD POC in conducting an annual ESD survey and ensure corrective actions are taken to correct any identified deficiencies. Results will be posted in the work area or in a readily accessible ESD program file once the survey is completed. Annual surveys will be accomplished on the anniversary date of the previous annual survey or when area requirements have changed.

14.42.8.2.5.3. (Added) Notify squadron ESD POC within 10 working days when changes are made to existing areas or additional work areas are required to ensure an ESD Control Report of Annual Survey is re-accomplished. A new ESD area survey is not required for minor changes; pen and ink changes are authorized. Results will be forwarded to the group ESD manager within 30 days any time changes or new requirements are introduced to the work area and then posted within the work area or in a readily accessible ESD program file. The next annual survey will contain the changes and new requirements within the annual written report.

14.42.8.2.5.4. (Added) Ensure ESD work surfaces (stations) are tested annually. Results will be documented on OO-ALC Form 234 and maintained within the work area.

14.42.8.2.5.5. (Added) Storage cabinets used to store ESD items will be tested annually and documented in the miscellaneous block on OO-ALC Form 234 or by a label affixed to the cabinet with the current inspection date.

14.42.8.2.5.6. (Added) ESD testing of all soldering stations will be accomplished every 90 days and documented on OO-ALC Form 236, *90 Day Soldering Station ESD Test*.

14.42.8.2.5.7. (Added) Ensure wrist straps are tested and documented on OO-ALC Form 235, *ESD Wrist Strap Daily Check*, prior to initial use on each shift, if the wrist strap is not used it should be left blank. Each subsequent user shall test the functionality of the wrist strap before use. Each user individually issued wrist straps will maintain a separate OO-ALC Form 235 to document testing. If the supervisor elects to use common shop (not individually issued) wrist strap they must develop an in house document to show multiple tests performed daily or provide a continuous wrist strap monitoring device.

14.42.8.2.5.8. (Added) Ensure all ESD items, serviceable or repairable, are transported and stored in static-shielding and non-charge-generating packages or containers. **Note:** (Added) Supply personnel handling packages containing ESD items are not required to install ESD caps, plugs, and bags. ESD protection measures will be accomplished, by the mechanic removing the item, immediately upon component removal from aircraft, missiles, test equipment, and line replaceable units.

14.42.8.2.5.9. (Added) Ensure attached forms; OO-ALC Form 234, OO-ALC Form 235, OO-ALC Form 236, and OO-ALC Form 237, are used to document ESD control program requirements. **Note:** (Added) Groups may use locally developed forms tailored to their unique requirements, however these forms must be developed and approved by the group ESD control program manager. They must be outlined within a group policy memorandum letter IAW AFI 33-360, *Publication and Forms Management* and provide direction (instructions on how to complete the forms) in an effort to standardize documentation within the group.

19.1.1.1. (Added) Technical Data Extracts. Extracts are 'printed or downloaded' copies of any technical information including contractor technical data from authorized electronic repositories/databases or from authorized paper technical data libraries. For example copies of T.O.s (Technical Orders), Process Orders, Mil-Stds, AFMC Form 202, *Nonconforming Technical Assistance Request and Reply* a Special Handling (SH) AFTO Form 252, *Technical Order Publication Change Request*, Engineering drawings/blueprints, Mylars, Electronic Work Instructions, Technical Manual Work Instructions, Process Specifications, etc. Technical Data downloaded from authorized repositories and/or paper technical data are considered organizational property. At no time will technical data or portions of technical data be copied, e-mailed or provided to contractor, individual, etc. Refer the requester to the technical data controlling agency identified on the title page within the Distribution Statement of the document.

19.1.1.1.2. (Added) Anyone authorized and able to print technical data extracts may print an extract for another authorized individual lacking the ability to do so. The recipient of the extract is responsible for the control and currency of the technical data extract IAW **paragraph 19.1.1.1.3.**

19.1.1.1.3. (Added) Technical data extracts and pages of technical data are permitted. This includes digital technical data where portions are printed. The following are the requirements for control of technical data extracts: The technical data title page will be printed, dated and stamped with a maintenance stamp and required pages from the technical data will be attached and/or in a binder under the specific technical data title page. Personnel not assigned a maintenance stamp will legibly print their first name initial and last name on the technical data title page. The required pages from technical data will be attached and/or placed in a binder under the technical data title page. Extended use extracts will be reviewed for currency

minimally every 30 calendar days. If the extract is needed longer than 30 calendar days, line out the old date and write the date of the new check on the technical data title page.

19.1.1.1.4. (Added) If multiple extracts are required they can be placed into a binder with an index sheet. The index sheet will be maintained in the front of the binder and will identify all the technical data extract numbers contained within the binder. The index sheet will be stamped and dated showing required currency review checks of the documents contained within the binder. There is no need to stamp and date each extract maintained within the extract binder. If a technical data extract is removed from the binder that extract will be again reviewed and stamped and dated per **paragraph 19.1.1.1.3.**

19.1.1.1.5. (Added) Printed technical data extract will also contain a required supplement, AFMC Form 202, Special Handling (SH) AFTO Form 252 if it affects the maintenance processes being performed.

19.1.1.1.6. (Added) Any extract not dated, not stamped, or doesn't have the printed name of the individual and date on the technical data title page is considered an "uncontrolled copy."

19.1.1.1.7 (Added) All technical data extracts will be disposed of IAW **paragraph 19.1.1.1.13.**

19.1.1.1.8. (Added) AMARG Reclamation Removal and Disposal/Demilitarization (DEMIL) Work Package Library. I AW T.O. 00-5-1 these packages are authorized only for AMARG. Technical data extracts used for locating parts and equipment on AMARG aircraft will be marked "FOR REFERENCE ONLY". AMARG personnel will follow the procedures in **paragraph 19.1.1.1.3.** and supporting sub-paragraphs when using technical data extracts for maintenance. The extracts must be maintained in Mission/Design/Series (MDS)-specific Work Packages. T.O.s and extracts included in these Work Packages may not be the most current editions according to the T.O. Catalog, but will be the latest versions applicable to the MDS covered.

19.1.1.1.9. (Added) AMARG other than Reclamation Removal and Disposal/Demilitarization (Demil) Work Packages, the remainder of AMARG personnel will follow the procedures in **paragraph 19.1.1.1.3.** and supporting sub-paragraphs when using technical data extracts for maintenance.

19.1.1.1.10. (Added) Engineering Drawings. Anyone authorized and able to print engineering drawings may print an extract for another authorized individual lacking the ability to do so. The recipient is responsible for the control and currency of the document. The recipient of the drawing will stamp and date the top front side of the document. If the recipient of the drawing is not assigned a maintenance stamp they will legibly print their first name initial and last name and date on the top front side of the drawing. Extended use extracts will be reviewed for currency minimally every 90 calendar days. If the extract is needed longer than 90 calendar days, line out the old date and write the new currency re-validation date on the drawing. Engineering drawing no longer needed will be destroyed and disposed of IAW paragraph **19.1.1.1.13.**

19.1.1.1.10.1. (Added) If multiple drawing extracts are required they can be placed into a binder with an index sheet. The index sheet will be maintained in the front of the binder and will identify all the drawing extract numbers contained within the binder. The index sheet will be stamped and dated showing required currency review checks of the documents contained within the binder. There is no need to stamp and date each extract maintained within the extract binder. If a drawing extract is removed from the binder that extract will be again reviewed and stamped.

19.1.1.1.11. (Added) Mylars. Anyone authorized and able to print mylars may print an extract for another authorized individual lacking the ability to do so. The recipient is responsible for the control and currency of the document. Mylars will be labeled with a piece of tape reflecting the review date along with a stamp. If the recipient of the mylar is not assigned a maintenance stamp they will print their first name initial and last name and date on tape. If the mylar is needed longer than 90 days, line out the old date and write the new currency re-validation date on the mylar tape. Mylars no longer needed will be destroyed and disposed of IAW **paragraph 19.1.1.1.13.**

19.1.1.1.12. (Added) Archived Drawings/Mylars. When a drawing or mylar is no longer required for current workload(s) but will be used in the future these documents will be placed in an archive area for storage. A master inventory listing will be maintained of all documents placed in an archived area. If a specific drawing or mylar is required to be used again currency will be validated prior to reuse by production. The document will be signed out using the AF Form 614, *Charge Out Record,* or the use of a sign-out of control log.

19.1.1.1.13. (Added) Disposition Technical Data Extracts. Personnel disposing of technical data and related T.O. file documentation including personnel utilizing T.O. extracts will follow disposition procedures in T.O. 00-5-1. If the document is classified, destroy IAW DOD 5200.1R, *Information Security Program,* and AFI 31-401, *Information Security Program Management*. CD-ROMS will have both surfaces scratched before recycling. **Note:** Highlighting on a technical data extract is permissible. What's not allowed are notes and/or annotating any type of dimension, tolerance, specification, part number, etc on the extract. Only "highlighting" of the extract is allowed.

19.1.1.1.14. (Added) Contractor Managed Process Specifications (PS). PSs will be placed in a numbered binder. Binders will contain a PS inventory sheet in the front of the binder. This inventory sheet will identify Title, PS Number, Version, and Version Date, and will be stamped and dated by the contractor who is required to review, update and keep PSs current. If the contractor does not have a stamp they shall date, print first name initial on inventory sheet.

19.1.1.1.15. (Added) Planning Managed PSs. PSs will be placed in a numbered binders. Binders will contain a PS inventory sheet in the front of the binder. This inventory sheet will identify Title, PS Number, Version, and Version Date, and will be stamped and dated by the planner who is required to review, update and keep PSs current.

19.1.1.1.16. (Added) Production Managed PSs. PSs will be placed in a numbered binder(s). Binders will contain a PS inventory sheet in the front of the binder. This inventory sheet will identify Title, PS Number, Version, and Version Date, and will be stamped and dated by the RCC supervisor or designee who is required to review, update and keep PSs current.

19.1.1.1.16.1 (Added) PS Use. A Technician will sign out required PS binder using the AF Form 614 (aka pinky). Technician will follow all Tech Data sign-out procedures.

19.1.1.1.16.2. (Added) If a technician must use only one PS contained in a PS binder the technician will verify currency via the index sheet (resolve any currency conflicts prior to use with PS POC), sign out the required PS on the AF Form 614 and place the 614 within the binder in the exact sequence where the PS was removed from. Technician will follow all Tech Data sign-out procedures for removing a PS from a binder.

19.1.1.1.16.3. (Added) If a technician makes a copy of any PS they will verify PS currency via the PS inventory sheet (resolve any currency conflicts prior to use with PS POC), the technician making the copy will stamp and date PS on PS front page controlling PS as a Technical Data Extract IAW **paragraph 19.1.1.1.10.** Strongly recommend not copying any PS unless absolutely necessary for mission accomplishment and permissible by the contractor. Contractually these documents can be proprietary and reproduction may not be permissible.

19.1.1.1.17. (Added) Process Specification Annual Inventory/Review. All PS shall receive an annual review to ensure the PSs are complete and current. When there are too many PSs in a library to permit inventory during a single month, PS POC may establish an incremental schedule to ensure a complete inventory of all PSs within the year. Such incremental reviews are considered "within the year" if completed within the proper month even if the completion date is more than 365 days since the last inspection.

19.1.1.1.17.1 (Added) Annual PS inventory documentation must identify the PSs inventoried, date performed and the name of the responsible individual. PS POCs will perform a full PS page check of all paper PS ensuring no pages of a PS are missing. Inventory PS discrepancies must be resolved and requisition missing PSs and PSs increments as required.

19.1.1.3. (Added) 309 AMARG when a specific task, procedure, part removal, or common maintenance practice is not covered by the applicable aircraft TO, the aircraft "system" (i.e., pneudraulics, engine, landing gear, structural, etc.), next higher assembly or commodity TO may be used to complete the task. The planner will ensure this is not listed as an "IAW" task on the WCD. If the removal of the part is a complex task, as determined by the Production Planning Team (PPT), an AFMC Form 561, will be developed locally. Use operational risk management to verify the benefit outweighs the risk when direct aircraft TO guidance is not available. The applicable aircraft -3 structural TO will be used as a reference for reclamation status aircraft structural cuts, along with the applicable -2 removal TO for components located in the cut area.

19.1.1.3.1. (Added) 309 AMARG "reclamation removal work packages," copies of TO extracts will be IAW TO 00-5-1, and 309 AMARG specific instructions in Chapter 14. Technical data will be reviewed, and the most current version will be used prior to issuing reclamation work control packages to maintenance.

19.1.1.3.2. (Added) To meet requirements for aircraft in storage at 309 AMARG, TO 1-1-686, *Desert Storage, Preservation and Process Manual for Aircraft, Aircraft Engines, and Aircraft Aux Power Unit Engines*, will be used for procedures and specifications addressed (i.e., landing gear strut extension, aircraft tire pressures, aircraft towing procedures, etc.).

19.1.1.5. (Added) OO-ALC WCD Focal Point Duties and Responsibilities. The WCD focal point will:

19.1.1.5.1. (Added) Be appointed by the OO-ALC CC, director, or equivalent.

19.1.1.5.2. (Added) Coordinate with headquarters to provide interpretation and guidance on all WCD issues and processes when not defined in other directives.

19.1.1.5.3. (Added) As required, supplement higher headquarters requirements on the WCD program. WCD focal point is OPR for OO-ALC Complex 309 maintenance groups including AMARG and GSUs for WCD policy and procedures. All 309 maintenance wing groups including AMARG and GSUs supplementing WCD policy and procedures shall coordinate their WCD operating instructions through the complex designated focal point.

19.1.1.5.4. (Added) Participate in the development of all command and local WCD training courses.

19.1.1.6.1 (Added) Contractor engineering red-line changes to contractor owned Electronic Work Instructions (EWI), Contractor Work Instructions (CWI), Technical Manual Work Instructions (TM/WI), Process Specifications, Commercial Maintenance Manuals (CMM) etc shall have a letter from the contractor engineer authorizing the red line changes. A copy of this letter shall be maintained in the planning folder for the workload. Additionally a copy of red-line authorization letter shall be attached to all copies of the applicable contractor technical data.

19.2.1. (Added) If Mil Standards, Mil Specifications, American Society for Testing Materials, Department of Defense Performance Specifications or similar type of technical information is required; the planner and responsible production supervisor shall ensure this information is current and correct for the workload. Locally reproduced copies of these documents will be controlled as technical data extracts IAW **paragraph 19.1.1.13.**

19.2.1.1. (Added) 206 Special Instructions containing actual technical data procedures will require the performing work center to initiate and submit an AFMC Form 202 back to the responsible engineer containing the exact 206 Special Instructions technical data procedures. The 206 control number shall be entered in block 8 and block 23B of the 202. The AFMC Form 202 will then be the source technical data identified on the WCD. If the 206 identifies technical data by number then that technical data will be the source technical data used to perform the requirements of the 206 and also identified on the WCD. The AFMC Form 202 shall be attached to the WCD per requirements of AFMCMAN 21-1, *Air Force Materiel Command Technical Order System Procedures,* and **paragraph 19.2.4.2.** of this supplement.

19.2.1.1.2. (Added) 206 Special Instruction stating use applicable technical data or similar statement (customer doesn't know what technical data to use) shall require the PPPT and/or PPT to thoroughly research identified 206 part number to identify technical data. Once the PPPT and/or PPT identifies technical data an AFMC Form 202 will be initiated and submitted back to the responsible engineer identifying requested technical data to use. The 206 control number shall be entered in block 8 and block 23B of the 202. The AFMC Form 202 will then be the source technical data identified on the WCD. If the 206 identifies technical data by number then that technical data will be the source technical data used to perform the requirements of the 206 and also identified on the WCD. The AFMC Form 202 shall be attached to the WCD per requirements of AFMCMAN 21-1 and paragraph 19.2.4.2 of this supplement.

19.2.1.2. (Added) The use of Test Plans and associated Test Procedures as mandated by AFI 99-103, *Capabilities-Based Test and Evaluation* and HAFBI 99-103, *OO-ALC Test and Evaluation (T&E) Process,* are authorized technical data guidance. Prior to formal implementation, the Test Plan shall be fully coordinated through the respective maintenance chief or equivalent of the depot maintenance organization utilizing and performing the requirements of the Test Plan. Once the test plan is signed, the planner will have a formal PPT meeting utilizing the AFMC Form 500, *Work Control Document Production Planning Team Checklist*. The Test Plan number shall be identified on the WCD as the source technical data. Test Plan number, including as required specific test plan paragraphs, shall be identified on the Temporary Job 206 within the Special Instructions. Any TO procedures called out from the Test Plan shall be considered part of the test procedures unless specifically stated in the Test Plan.

19.2.1.2.1. (Added) A Safety Briefing shall be given prior to test execution. The Safety Briefing shall address any specific test hazards in addition to standard test/shop safety procedures. The planner shall ensure an administrative operation is planned as part of the WCD coded with an X certification/verification code for the Safety Briefing.

19.2.1.2.2. (Added) If a deviation and/or change is needed to procedures contained in the Test Plan, the guidance contained in AFI 99-103 and HAFBI 99-103 shall be followed. Test Plan deviations or changes may require manual planner updates to WCDs on the shop floor. **Note:** Test Plans and Test Directives are considered interchangeable and developed IAW AFI 99-103 and HAFBI 99-103.

19.2.4.1. (Added) An AFTO Form 22 will be evaluated by the supervisor and forwarded to the group quality AFTO Form 22 POC. The POC will follow the procedures contained in TO 00-5-1 for tracking and following up on submitted AFTO Form 22s and the AFMC Supplement to 00-5-1 for routing of AFTO Form 22s.

19.2.4.2. (Added) One-time use serial/tail number specific, AFMC Form 206, *Temporary Work Request.* Request Number AFMC Form 202 (one-time use 202s).

19.2.4.2.1. (Added) Only an AFMC Form 202 coordinated and signed IAW AFMCMAN 21-1 for a one time use shall be documented and attached to the WCD. The entire AFMC Form 202 control number shall be manually entered in 'red' on the WCD header page within the technical data block and also annotated to the specific WCD sub-operation task description block requiring the use of the AFMC Form 202.

19.2.4.2.2. (Added) The following OO-ALC stamps are authorized to manually document one-time use AFMC Form 202 control numbers onto a WCD: Planner Industrial Engineer Technician stamp (IET), Production Supervisor stamp (P), Evaluation & Inspection stamp (EI), Productions Control Scheduler stamp (C). The authorizing stamp will be placed and dated as close as possible to the applicable AFMC Form 202 control number.

19.2.4.2.3. (Added) 309 AMXG ALS AFMC Form 202 responsibilities.

19.2.4.2.3.1 (Added) The dock ALS as the focal point and responsible agent for the issuance of WCDs will attach the completed AFMC Form 202 approved by engineering to all required WCDs and properly document the 202 control number onto the WCD IAW **paragraph 19.2.4.2.** and supporting sub-paragraphs of this supplement. This process will be accomplished prior to scheduling or issuing the WCD for work on the affected aircraft.

19.2.4.2.3.2 (Added) If an AFMC Form 202 addresses more than one skill, the responsible ALS will ensure a copy of the AFMC Form 202 is attached to the WCD for each skill prior to being scheduled and issued for work.

19.2.4.2.4. (Added) Use of Contract Numbers and Contract Expiration Dates on AFMC Form 202.

19.2.4.2.4.1. (Added) OO-ALC maintenance groups in Contractor Logistics Support (CLS) partnering agreements where the prime contractor uses the AFMC Form 202 to provide 'proprietary' engineering disposition procedures back to production shall ensure the government initiator of the AFMC Form 202 enters the contract number in block 8.

19.2.4.2.4.2. (Added) The prime contractor engineering approval authority signing block 26E shall enter in block 23B the complete contract number and contract expiration date. **Note**:

(Added): Current AFMC Form 202s supporting CLS agreements and fully coordinated, completed and in use per the AFMC Waiver Approval on this subject dated 25 March 2009 are exempt from the above requirements.

19.2.4.3. (Added) Upon receipt of a completed SH252 with an AFMC Form 202 attached, the changes will be incorporated into the WCD within 15 working days and released to the maintenance activity.

19.2.4.4. (Added) Maintenance Assistance to Air Force Bases and Sites. Procedures for processing field-level maintenance assistance requests are located in AFMCI 21-133, *Depot Maintenance Management for Aircraft Repair*. Personnel assigned within the OO-ALC Aircraft Maintenance Group (309 AMXG) may use the "-107 process" to request nonconforming technical assistance from the responsible engineering authority.

19.2.5. (Added) The responsible planner will update all applicable WCDs on the shop floor to include end items in awaiting parts (AWP) status within fifteen working days after formal posting of TO changes that affect the WCDs. Production will assist in locating the affected WCDs when requested.

19.2.5.1. (Added) 309 AMARG inactive job plans do not require immediate updating, but will be reviewed for currency prior to reactivating for new workload.

19.2.5.2. (Added) Configuration management control of items in work (except 309 AMXG). Any maintenance technician detecting a WCD header configuration information error shall write "VOID" over the error in red. This technician will correct the error, stamp and date next to the correction, and inform the production supervisor. The production supervisor or designee will manually VOID and correct errors on similar WCDs in production by stamping and dating next to the corrections. Production will promptly notify scheduling of these corrections. The scheduler will VOID and correct items in AWP by stamping and dating next to the correction. The scheduler will notify the planner of any configuration management changes so the planner can correct the information within the applicable electronic WCD generation system. Examples of header errors would be incorrect noun (nomenclature), federal stock number, part number, operation number, job order number, serial number etc.

19.2.5.3. (Added) 309 AMXG configuration management control of items in work. When informed by maintenance personnel, the planner will immediately correct and update any WCD header configuration information containing errors. Planners shall manually change WCDs on the shop floor. The planner shall IET-stamp and date next to the header changes. The planner will correct the information within the applicable electronic WCD generating system. Examples of header errors would be incorrect noun (nomenclature), federal stock number, part number, operation number, job order number, serial number, etc.

19.2.6. (Added) 309 AMARG reclamation WCDs for priority removals, save lists and miscellaneous WCDs are stand-alone documents, requiring no master WCD. DEMIL and HAZMAT handbooks are not classified as WCDs and are not subject to this instruction.

19.2.6.2 (Added) WCD Mandatory Review. At a minimum a three year currency review shall be performed on non-NWRM (Nuclear Weapons Related Materiel) WCDs. This three year review will require the use and documenting of an AFMC Form 500, *Work Control Document Production Planning Team Checklist.* The three year review date shall be identified on the front page of the WCD.

19.2.6.2.1 (Added) An annual review shall be performed on all NWRM WCDs. This annual review will require the use and documenting of an AFMC Form 500, *Work Control Document Production Planning Team Checklist*. Additionally, review shall ensure the WCD is compliant with AFI 20-110, *Nuclear Weapons-Related Materiel Management* and AFI 20-110_AFMCSUP_1, *Nuclear Weapons-Related Materiel Management*.

19.2.6.2.2 (Added) An annual review shall be performed on WCD containing operation(s) referencing any dimension, tolerance, or specification (DT&S). This annual review will require the use and documenting of an AFMC Form 500, *Work Control Document Production Planning Team Checklist*. **Note:** Mil-Standards/Specifications, stock numbers, part numbers are not considered DT&S.

19.2.6.2.3 (Added) Planning organizations shall develop a documented manual or electronic tracking mechanism ensuring WCDs are reviewed and review dates reflected on WCD front page.

19.2.6.3. (Added) Tasks identified beginning with paragraph 19.2.16.2. through paragraphs 19.2.16.3 and supporting paragraphs will be identified as IAW. Non-IAW tasks (formerly known as reference or REF) tasks may be specified as REF.

19.2.6.8. (Added) WCD or WCD operations identified as reference or REF can identify technical data DT&S, paragraphs, tasks, figures, indexes, steps, pages, or card numbers etc.

19.2.6.8 (Added) WCD or WCD operations identified as IAW shall not identify technical data DT&S, paragraphs, tasks, figures, indexes, steps, pages, or card numbers etc.

19.2.6.8.1 (Added) The WCD header may contain the following statement or equivalent: "All operations identified on this WCD shall be done IAW unless identified otherwise." Including this statement in the header eliminates the requirement to identify each task description block technical data as IAW.

19.2.6.9. (Added) WCDs requiring the use of independent technical data not identified within primary technical data shall have independent technical data identified within WCD technical data block. Independent technical data shall also be identified to the specific WCD operation(s) task description block requiring use of independent technical data. Identifying AFI, AFMCI, local operating instruction etc., very rarely contain actual maintenance repair requirements and should not be included within the technical data block.

19.2.7.1 (Added) WCD change requests submitted manually or via email on an AFMC Form 957, *Work Control Document (WCD) Change Request.* Automated systems capable of gathering and tracking the same information required on an AFMC Form 957 may be used.

19.2.7.2 (Added) All submitted WCD change requests effecting (Nuclear Weapons Related Materiel (NWRM), an operation coded with an E or I, change request impacting form, fit, or function, and change requests effecting critical technical data specific maintenance tasks of disassembly, cleaning, inspection, assembly, functional testing, including change requests impacting critical maintenance processes such as Non Destructive Inspection (NDI), heat, bake, welding, chrome plating, anodizing, chemical treatment of components shall require formal coordination and approval through the PPT including quality assurance and the applicable engineering organization. These WCD change requests will require the use of the AFMC Form 500 and block 4 Planning Reason shall be marked PPT with comments inserted in block 4 box or in comments block 9 stating the following or equivalent: AFMC Form 957, *Work Control*

Document Change Request. Procedures identified in **paragraph 19.2.16.3.** of this supplement shall be reviewed on all submitted WCD change requests.

19.2.7.3. (Added) Administrative changes (spelling, grammar, punctuation, etc.) do not require immediate changes to the WCDs on the shop floor or AWP.

19.2.9.1. (Added) When requested by the PPT safety, bioenvironmental, training manager, PAC manager, etc will be required to attend the PPT. Individuals attending PPT shall coordinate and signoff on the AFMC Form 500 per requirements of AFI 21-101_AFMCSUP Table A14.8.

19.2.10 (Added) Approved OO-ALC WCDs are: AFMC Form 173, *MDS/Project Operation Assignment*, AFMC Form 959, *Work Control Document*, IMPRESA, ITS, MAXIMO, Programmed Depot Maintenance Scheduling System (PDMSS) computer generated AFMC Form 173, over and above (O&A) unplanned/unpredictable WCDs generated from a maintenance work request (MWR), and definitized lists when attached to an AFMC FORM 173. See Table 19.1. for instructions on ITS and IMPRESA WCDs and how these documents compare to the AFMC Form 959.

19.2.10.1 (Added) FEMS shall be utilized by Plant Management (309 MXSS) to create a computer generated Work Authorization Document (WAD) for called in problems and scheduled maintenance. Certified employees shall stamp on the "employee work completion" line when the WAD is completed. Prior to closing out the WAD, the supervisor or designated employee will input the certifying employee's information into FEMS. FEMS shall also be utilized by the PMEL (709 MXSS) to generate calibration and/or repair work orders for the scheduling of TMDE. Completed work orders will be "K" stamped by the technician who is certified to perform the work. The completed work order shall be routed to PMEL Production Control for entry into the FEMS data base. Historical tracking of all certifying employees shall be maintained in FEMS.

19.2.10.1.1 (Added) Employees stamping WAD documents shall ensure stamps and date impressions are legible. Informational Notes shall be used as required and IAW AFI21-101_AFMCSUP and this supplement when any WAD task/operations is non-rated (NR), NA, previously complied with Previously Complied With (PCW) or Satisfactory As Is (SAI).

Table 19.1. (Added) Instructions for Completing AFMC Form 959, ITS and IMPRESA WCDs.

BLOCK #	TITLE	CONTENT
1.	Date	REQUIRED: Enter Date. On ITS and IMPRESA WCDs this is an automatic system generated date. This is the date the document is printed from the applicable system.
2.	Job Order Number (JON)	REQUIRED: Enter the control number and job designator (the three digits JON suffix will be inserted when the item is scheduled for work). For non-programmed workloads with a supporting AFMC FORM 206 JON in this block. ITS this is identified as the document ID Number (Doc ID NBR). IMPRESA this is identified as the project/Work Breakdown Structure.

3.	Quantity	Enter the quantity.
4.	Production	REQUIRED: Enter the symbol for the responsible Section/RCC performing production section/RCC. On ITS and IMPRESA this is located within the respective task description block.
5.	Date Scheduled	REQUIRED - SCHEDULER: The scheduling function enters the date when the items are placed into work. ITS; this is identified as the date printed. IMPRESA this is identified as the release date.
6.	Date Completed	REQUIRED - SCHEDULER: The scheduling function enters the date after the work is completely PAC and P/supervisory certified. ITS and IMPRESA WCDs have an task identified with a "C" Management Code (MGT/CD) and the scheduler stamps and dates this block.
7.	Part Number	Enter the part number. When the WCD is for more than one part then all part numbers, NSNs and production numbers can be listed, blocks 12 and 17 can be used for continuation. When multiple part numbers are listed, the scheduling function designates part number, NSN and control number combination for the item by circling the appropriate part when block five is completed.
8.	Tech Data	REQUIRED: On ITS and IMPRESA WCDs this field will identify primary technical data. Independent technical data **may** be listed as determined by the PPT. **NOTE:** The use of a separate governing directives block is not required.
9.	Item Serial Number	REQUIRED: The mechanic or scheduler will enter the child serial number within the header of the WCD. To ensure strict configuration control the child component must be traceable and auditable to the specific WCD used to certify maintenance requirements on that specific child component.
10.	MDS	REQUIRED: Enter the MDS when the item is routed from an aircraft, engine, or other major end item.
11.	Stock Number	Enter the complete stock number to include the materiel management aggregation code if applicable.

12.	Optional	If applicable, the following or equivalent statement may be identified: All operations identified on this WCD shall be done IAW unless identified as reference If applicable, the following or equivalent statement may be identified: Tasks must be accomplished and certified in step-by-step order. If applicable, the following or equivalent statement may be identified: DT&S are contained on this WCD. If applicable, other statements can be identified i.e. ESD sensitive equipment; cover and protect (C/P) move
13.	Serial Number	REQUIRED: The scheduling function will enter the parent/end item serial number.
14.	Noun	Enter the nomenclature identifying the item.
NOTE: Blocks 15, 16, 17, 18, 19 and 20 will be determined by the PPT and this information will be found within the ITS and IMPRESA task description block.		
15.	Dispatch Station Skill Code	Enter the dispatch station number. When routed to more than one building include the building numbers. ITS and IMPRESA WCDs identify the dispatch station as the drop station. REQUIRED: Enter skill code for the task being performed.
16.	PDN/OP Number	REQUIRED: Enter the performing RCC if different from block 4 and operations numbers from labor plan. Do not duplicate numbers.
17.	Work to be Accomplished	REQUIRED: On ITS and IMPRESA WCDs this block is considered the task description block and will have a description of work as determined by the PPT. The task description block identifies the work to be performed with the PPT determined auditable performance statement (i.e. inspect, test, rig, install, disassemble, repair, grind, machine, blast, clean, paint, etc.) and item name (i.e. generator, circuit card, valve, piston, stator, clutch, torque converter, bearing, housing, oil jet, retaining ring, etc.) If applicable, the task description will identify independent technical data not identified within the primary technical data. **NOTE:** ITS and IMPRESA WCDs will have separate tasks identified at the end of the document for a production supervisor (P) and scheduler (C) review.
18.	Mechanic	REQUIRED: On ITS and IMPRESA WCDs this field is identified with a production acceptance certification code (PAC/CD) (M, E, I, N).

19.	P	On ITS and IMPRESA WCDs this field is identified with the applicable management code (MGT/CD) (C, P, SP). Secondary Production Acceptance Certification (SP) block is used for E and I codes. The mechanic stamps and dates at the completion of the task.
20.	Q	Quality inspection code **Q**. The QAS stamps and dates at the completion of the required inspection/verification.
21.	Final Destination	Enter the destination or dispatch station and functional code of the RCC responsible for disposition of routed item. ITS and IMPRESA this may be identified within the document to a specific drop station.
22.	Coordination Initiating RCC Signature/Date	REQUIRED: Enter the office symbol, date and signature of the PPT representative. **NOTE:** This is no longer required on ITS and IMPRESA WCDs.
23.	Document Serial Number	Enter the serial number of the form as required. Sequential numbering may be used or this number can be used along with the publication date to control form revisions. It can also be used for suspense or other tracking purposes.

Note: (Added) Mandatory entries are identified as REQUIRED. ITS and IMPRESA generated versions of the AFMC Form 959 do not have blocks numbered and arranged as described. The above information will be entered on AFMC Form 959 to included ITS and IMPRESA system generated WCDs in the appropriate non-block/unnumbered fields.

Figure 19.1. (Added) Example of WCD Header Step-By-Step Statement.

TECH DATA:

2G-GTCP-36-12

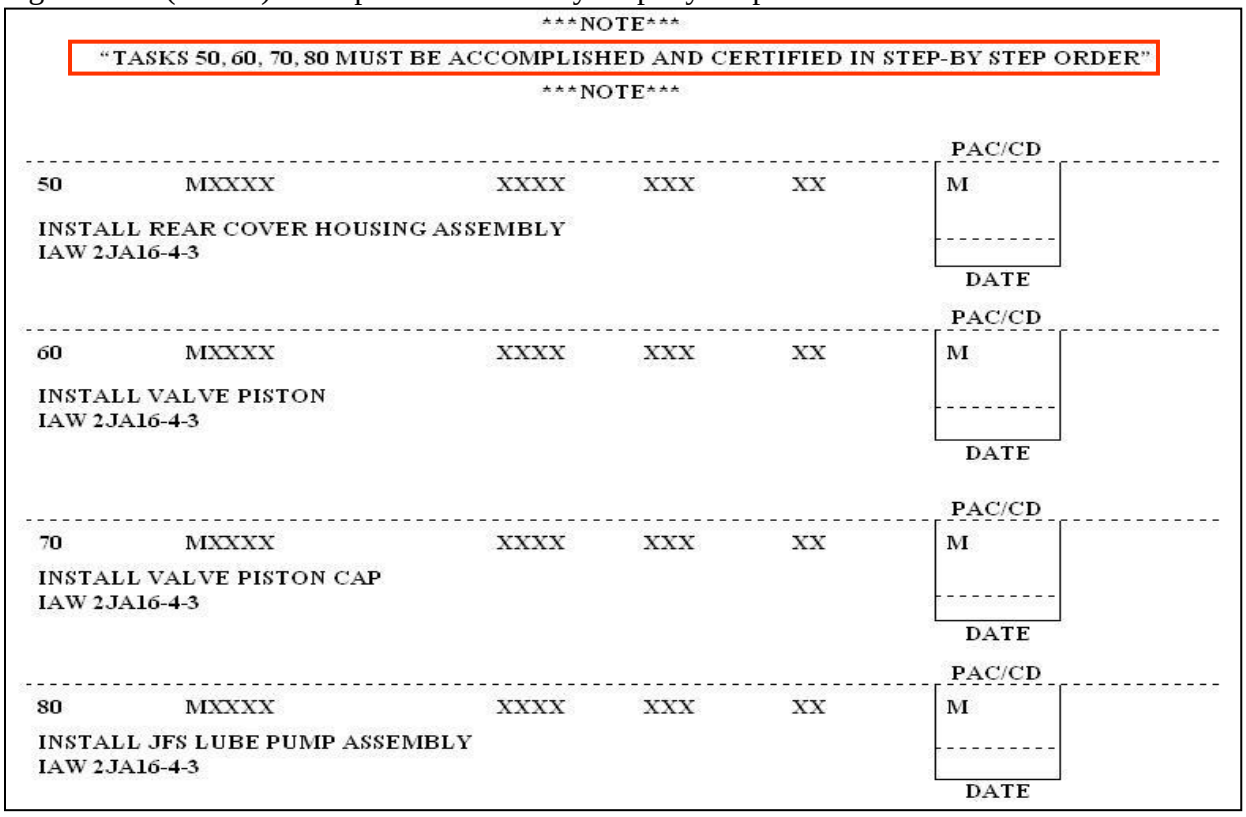
PO N03241

ALL OPERATIONS IDENTIFIED ON THIS WCD SHALL BE DONE IN-ACCORDANCE-WITH (IAW) UNLESS IDENTIFIED AS REFERENCE (REF)

TASKS MUST BE ACCOMPLISHED AND CERTIFIED IN STEP-BY-STEP ORDER

DIMENSIONS, TOLERANCES AND SPECIFICATIONS (DT&S) ARE CONTAINED ON WCD

Figure 19.2 (Added) Example of WCD Body Step-By-Step Statement.



NOTE

"TASKS 50, 60, 70, 80 MUST BE ACCOMPLISHED AND CERTIFIED IN STEP-BY STEP ORDER"

NOTE

					PAC/CD
50	MXXXX	XXXX	XXX	XX	M
INSTALL REAR COVER HOUSING ASSEMBLY IAW 2JA16-4-3					DATE
60	MXXXX	XXXX	XXX	XX	M
INSTALL VALVE PISTON IAW 2JA16-4-3					DATE
70	MXXXX	XXXX	XXX	XX	M
INSTALL VALVE PISTON CAP IAW 2JA16-4-3					DATE
80	MXXXX	XXXX	XXX	XX	M
INSTALL JFS LUBE PUMP ASSEMBLY IAW 2JA16-4-3					DATE

Figure 19.3 (Added) Example of Definitized List Step-By-Step Statement.

DCD: A1 WPN ID: 734 SERIAL NO: 80000215 OP NR: 25028 CTL NR: 00131

Sub Op	Description	Insp	Mech	Pro Cert	Other/Insp
	NOTE				
	"TASKS MUST BE ACCOMPLISHED AND CERTIFIED IN STEP-BY-STEP ORDER"				
	NOTE				
00020	INSTALL 3/8" TUBE BULKHEAD FITTING (UNION) P/N 160D950315-11	M			
00030	INSTALL SHUT OFF VALVE MOTOR – TANK GATE PN 156130-10	M			
00040	INSTALL SLIP BUSHINGS IN HINGE FITTING BEFORE ATTACHING PUSHROD.	M			
00050	INSTALL TANK GATE VALVE BODY ASSY PN 138870-1	M			
	*** END DEFINITIZED LIST ***				

19.2.10 2. (Added) All I-coded tasks shall be performed in the sequence they appear on the WCD. At no time shall an I-coded task be skipped over to perform another dependent sub-operation task. The following is a scenario for clarification: An AFMC Form 173 card states rig flight controls and the attached definitized list identifies two independent tasks with critical but independent sub-operations that are I-coded (1) rigging left flight controls and (2) rigging right flight controls. In scenarios such as this the I-codes can be stamped out of sequence because they are totally independent "major" tasks with independent sub-operations.

19.2.10.3.1. (Added) PDMSS-generated O&A unpredictable/unplanned. The PDMSS-generated O&A WCD is initiated by a technician who "identifies (stumbles-on)" a defect and hand scribes the defect onto a PDMSS maintained work request worksheet when the defect is not covered by any Evaluations and Inspection (E&I) write up. See Table 19.2. for instructions on completing the PDMSS work request worksheet.

Table 19.2. (Added) Instructions for Completing PDMSS Generated *Work Request Worksheet.*

BLOCK TITLE	DESCRIPTION
Date	(Responsibility of initiator) The date of initiation of work request worksheet.
Reference Number	(Responsibility of initiator) Optional, master MWR number.
Defect Class	(Responsibility of initiator, can be changed by supervisor) To be used to describe the severity of the defect described on the MWR. Includes blank (for INFO notes), X, /, -, Supervisor of Flying, NSOF, NSFE (local), MINA (local minor not accessible).
Zone/Area	(Responsibility of initiator) Zone or area in which the defect described can be found. Zones and areas are found in the statements of work associated with the repair.
Inspector	(Responsibility of initiator) The inspector code will be the Core Automated Maintenance System (CAMS) number or stamp number of the actual inspector (E&I, engine, etc.) doing inspections on the aircraft.
Requestor	(Responsibility of initiator) The requestor block will be used by any requestor other than inspectors. CAMS number will be used.
Work Unit Code	(Responsibility of initiator) Code found in -06 technical orders to identify the part being described in the MWR description block.
Work Spec Code	(Responsibility of PAO or planner) Work Specification Code from the Maintenance Requirements Review Board brochure or other source. Describes the task the work in the description block falls under.
Inspection Code	(Responsibility of initiator, can be changed by supervisor, planning or PAO) Code found in AFMCI 21-101 SUP1 or other document that describes the level of inspection. Usually in conjunction with the defect class.
How Mal Code	(Responsibility of initiator) Code found in weapon specific -06 TO identifying the defect described in the MWR description block.
Incoming Condition	(Responsibility of initiator) The requestor will circle either Y for yes or N for no.
IAW	(Responsibility of initiator) The requestor will circle either Y for yes or N for no. This show if the TO needs to be open/used while doing the task.
Technical Data Required	(Responsibility of initiator) Either a TO (including job guide) or engineering reference to be used in the repair of the defect described in the description block. The -4 reference may be used here if the purpose of the MWR is to manufacture a part. Otherwise, the block will indicate the technical data to be used in the work involved.
Para/Figure	(Responsibility of initiator) Extension of the technical reference, if needed.

Step/Index	(Responsibility of initiator) Extension of the technical reference, if needed.
Work Package	(Responsibility of initiator) Further extension of the technical reference, if needed.
Serial Number/Part Number	(Responsibility of initiator) Serial number of serialized part involved on the MWR. (For instance, engine serial number) Part number of part on MWR, or part to be local manufactured on the MWR.
Part Quantity	(Responsibility of initiator) Number of parts in the serial number/part number block.
Skill	(Responsibility of initiator) Skill code to perform the work described in the description block.
Workers	(Responsibility of initiator) Number of workers expected to be working on the defect in the description block.
Actual Hours	(Responsibility of initiator) May be .1 for E&I initiated MWRs, or actual requested hours, estimated by the requestor. Final approval of hours will be paid by the PAO and planner to the RCC for the work described. If there is a planned operation covering the discrepancy/description the request may be attached to an operation as a MWR definitized guide.
Organic	(Responsibility of initiator) Type of work, the requestor will circle either Y for yes or N for no.
Material	(Responsibility of initiator, can be changed during processing) Materiel. Codes are N, K, and M. N = None required. K = Kit, M = Material may be required for this MWR. "M" includes local manufacture. Indicator only.
Action Taken Code	(Responsibility of initiator) Action Taken Code, found in 06 technical orders to indicate what type of actions will be or have been taken on the part described on the MWR.
Rework	(Responsibility of initiator, but may be changed by the planner or PAO) "Y" or "N" entry. Indicates if the work on the MWR is rework, not to be paid for, but approved to be accomplished.
CANN/Rob	(Responsibility of initiator) Field to indicate the "other" related tail number involved if the MWR describes work connected to cannibalization or robbing of a part.
AFMC Form 959 Needed	(Responsibility of initiator, but may be changed by the planner or PAO)"Y" or "N" entry. May be requested by the planner or PAO to justify the hours requested.

Discrepancy Description	(Responsibility of initiator) A complete description of the defect. May include part numbers, serial numbers, stations on the aircraft, other technical references used in the work, etc.
If Required Follow-On Maintenance	Also required is information on any follow on maintenance or functional or operational checks required; if none, a check mark will be placed here.
Corrective Action	(Responsibility of initiator) The process followed by the mechanic in repairing the defect described on the description block, may be blank on input. Should not be left blank on the WCD after completion of work.
Foreman Stamp	(Responsibility of Foreman) "P" stamp placed here after review of worksheet for accuracy paying particular attention to the inspection code before giving to the ALS for input in PDMSS.
Tail Number	(Responsibility of initiator) Tail number of aircraft requiring MWR.
Work Request Number	(Responsibility of ALS) ALS will write down request number given by the system, PDMSS for aircraft it was input for.
Input	(Responsibility of ALS) ALS will put date and time of input of the work request.

19.2.10.3.1. (Added) Work Emergency WCDs. AFMC Form 959 shall used when circumstances prevent the use of WCD generating systems. Such occurrences may include but not limited to: extended power outage; data base failure or connectivity interruption; force deployment where connectivity, planning, or scheduling support is unavailable.

19.2.10.3.1.1. (Added) 309 AMXG procedures for work emergency WCDs. Production ALS or ranking production supervisor (if no ALS is on duty) will determine necessity of work emergency WCD. Flight test ALS or ranking production supervisor (if no ALS is on duty) will determine necessity of work emergency WCD.

19.2.10.3.1.1.1. (Added) 309 AMXG. When the AFMC Form 959 is being used as a emergency hand scribed definitized list attachment to an unplanned WCD, or when being used to build a master AFMC Form 959 WCD's definitized list attachments to a AFMC Form 173. Use blocks 7 for operation/MWR number. Block 10, MDS. Block 12 optional used for master O & A definitized list. Block 13, tail number. Block 17, task accomplished, 18, inspection code required (M,E, or I) certification stamp and date, Blocks 19 and 20, certification stamp and date if applicable.

19.2.10.3.1.1.2. (Added) An emergency MWR will be attached to a hand scribed AFMC Form 959. A hand scribed AFMC Form 959 will be used to document the emergency maintenance work and identified to the aircraft by tail number, operation number/MWR number. On the next regular workday morning or after immediate need situations have been addressed, the flight test ALS will copy over the original emergency MWR in PDMSS to a new MWR and provide the original completed copy along with the completed hand scribed AFMC Form 959 to the appropriate planning section. Planning will review the copied over MWR and coordinate with PAO for disposition of the work requirements and associated hours for approval.

19.2.10.3. 3. (Added) Definitized lists may be used as a continuation of the technical data block

(see **paragraph 19.2.6.9.**). Block 31 of an AFMC Form 173 may contain the statement "See Definitized List" to continue multiple technical data listing if required

19.2.10.3.3.1. (Added) When procedures require a detailed step-by-step breakdown of a single operation, 309 AMARG will use MAXIMO to create a "definitized list" within a job plan/WCD. In the first operation in block 17, enter, "Task must be accomplished and certified in step-by-step order". In the following operations in block 17, create step-by-step details of the single operation. At the end of the definitized list in block 17 of the last operation, enter "end of definitized list". (Example: op-5, "Task must be accomplished and certified in step-by-step order". Create ops-10 through 50 in step-by-step order. In block 17 of the last operation number, op-55, enter "end of definitized list").

19.2.12.1. (Added) The PPT will review all contractor supplied WCDs using the AFMC Form 500, *Work Control Document Production Planning Team Checklist*. The PPT will determine if the contractor supplied WCD needs to be supplemented. If the contractor supplied WCD requires additional information, the planner will elevate it to the applicable contracting authority. The planner will maintain a "master" hard copy of contractor supplied WCDs if these documents are not electronically maintained.

19.2.13. (Added) When a system generated WCD is not developed to support level of effort and other non-Management Items Subject to Repair (MISTR)/non- Program Depot Maintenance (PDM) workloads an AFMC Form 959 will be used.

19.2.14.1.1. (Added) General maintenance tasks not covered by technical data and requiring PAC certified technician(s) perform tasks will minimally have an inspection/certification code of "M" assigned. Examples of general maintenance tasks could be: process in, process out, uncrate, verify material, preparation of tooling, etc.

19.2.14.1.1.1. (Added) When the X code is used the technical data usage statement, technical data not required or equivalent statement is not required to be annotated with the task description block

19.2.14.1.1.2. (Added) X-coded tasks do not require the individual to be PAC certified. X-coded tasks will be stamped and dated. The X-code is used for tasks that are administrative in nature to include but not limited to tasks that are informational in nature, used for scheduling (trigger operations), non-maintenance related time tracking, routing, perform overhead support operations, etc.

19.2.14.1.2. (Added) The 309 AMARG will not use specification and tolerances verbatim or any similar information from technical data on WCDs.

19.2.14.1.2. (Added) The planning organization shall ensure the planner or appointed DT&S monitor maintains a log of all WCDs containing DT&S. This log may be in an electronic format or in a manually maintained logbook.

19.2.14.1.2.1. (Added) WCDs containing planned DT&S shall have an annual PPT review using AFMC Form 500 ensuring currency and correctness of planned DT&S per the governing technical data.

19.2.14.1.2.2. (Added) Any WCD containing planned DT&S shall have within the header of the WCD the following or equivalent statement "DT&S are contained within this WCD."

19.2.14.1.2.3. (Added) If a technical data change updates any planned reference identified

DT&S contained on a WCD, the planner shall update the WCD within the WCD electronic system. The planner shall ensure all WCDs on the shop floor are updated within 5 working. The planner shall make any required DT&S change manually to the DT&S contained within the WCD task description block. The planner when then IET-stamp and date the change. Production will assist in locating the affected WCDs when requested.

19.2.14.2. (Added) Initial incoming WCD NDI Requirements: Any OO-ALC authorized MISTR, programmed, planned, temporary, unpredictable, or contractor WCD requiring performance of approved NDI techniques shall be fully evaluated and approved through the OO-ALC Level III NDI technician and NDI element chief.

19.2.14.2.1. (Added) If no NDI process technique exists, the NDI supervisor or element chief will be notified and the procedures contained in Tables 19.3A and 19.3B. shall be followed. NDI requirements shall be developed and implemented IAW the most current NDI technique.

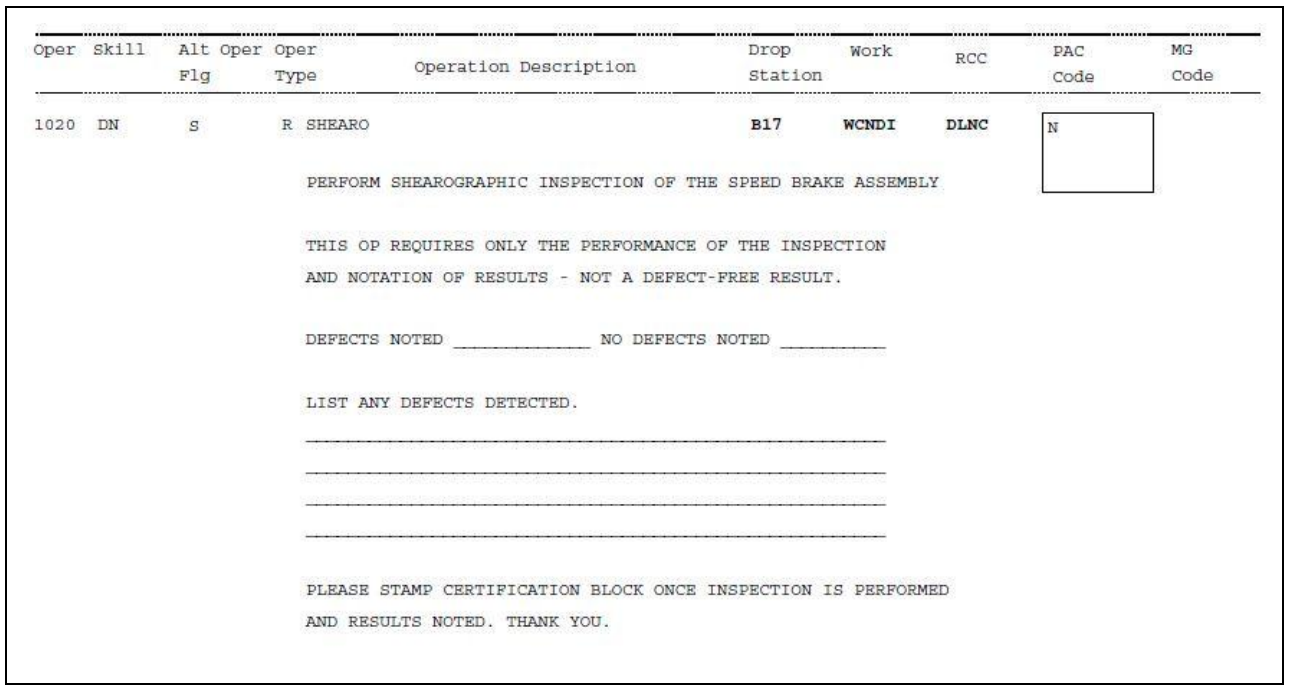
19.2.14.2.2. (Added) WCD tasks requiring NDI will be developed according to Figure 19.4. The planner will identify the specific NDI process technique and/or specific NDI technical data within the WCD task description block if not already identified within the primary technical data. The planner shall ensure an identifiable area with adequate space is identified as 'LIST ANY DEFECTS DETECTED' or equivalent statement is provided within the task description block. Additional process routes may be included within the task description block.

19.2.14.2.2.1 (Added) An NDI technician finding deficiencies shall hand scribe all defects Noted in the WCD list any defects area within the task description block or make a Note within the LIST ANY DEFECTS DETECTED area see attached NDI report or technical data identified NDI defect capture log for defect findings. If feasible, the NDI technician can mark all part defect areas. The NDI technician shall stamp and date the inspection certification code block.

19.2.14.2.2.2. (Added) If no defects are Noted the NDI technician shall hand scribe the following or equivalent statement in LIST ANY DEFECTS DETECTED area 'No Defects Noted'. The NDI technician shall stamp and date the inspection certification code block.

19.2.14.2.2.3. (Added) An NDI technician supporting aircraft NDI requirements finding deficiencies will submit an MWR for defects discovered during NDI processing. For NDI Noted deficiencies not addressed and/or outside the limits of the technical data, a tail number specific AFMC Form 202 will be submitted IAW the procedures of paragraph 19.2.4.2.3. and supporting sub-paragraphs. The approved AFMC Form 202 shall be annotated and attached to the O&A WCD IAW paragraph. 19.2.4.2. and supporting sub-paragraphs of this supplement. **Note**: All WCDs containing NDI tasks shall be updated per the above paragraphs and sample figure within two years of this supplements published date. **Note:** Performance of WCD identified NDI tasks are a process inspection and as a result should not be considered always a defect free inspection.

Figure 19.4. (OO-ALC Added) Example of WCD NDI Requirements.



Oper	Skill	Alt Oper Flg	Oper Type	Operation Description	Drop Station	Work	RCC	PAC Code	MG Code
1020	DN	S	R	SHEARO	**B17**	**WCNDI**	**DLNC**	N	

PERFORM SHEAROGRAPHIC INSPECTION OF THE SPEED BRAKE ASSEMBLY

THIS OP REQUIRES ONLY THE PERFORMANCE OF THE INSPECTION
AND NOTATION OF RESULTS - NOT A DEFECT-FREE RESULT.

DEFECTS NOTED _____ NO DEFECTS NOTED _____

LIST ANY DEFECTS DETECTED.

_____

_____

_____

_____

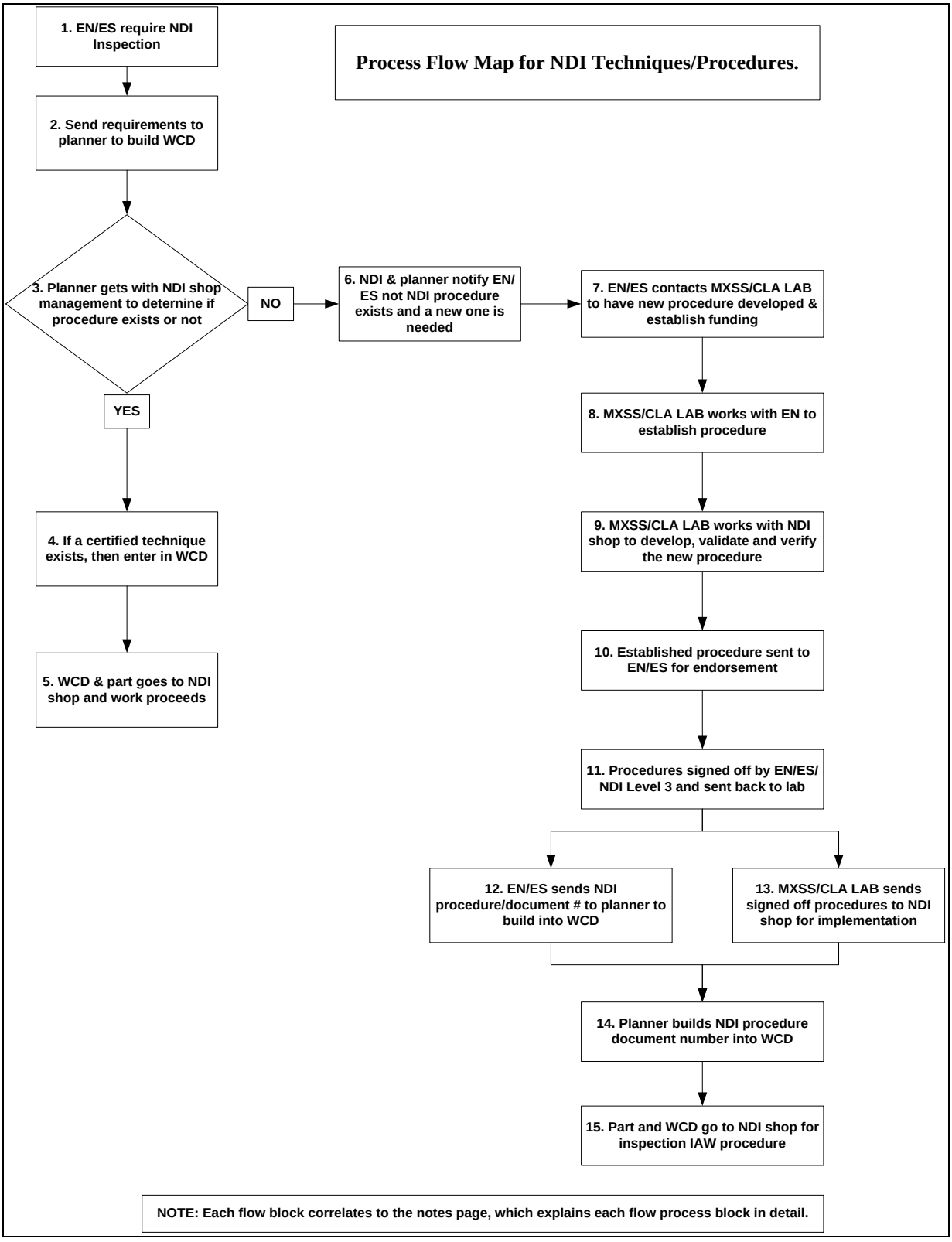
PLEASE STAMP CERTIFICATION BLOCK ONCE INSPECTION IS PERFORMED
AND RESULTS NOTED. THANK YOU.

Table 19.3A. (Added) Process Flow Map for NDI Techniques/Procedures.

1.	Engineering/equipment specialists have new requirement to have a NDI inspection performed upon a part:
a.	Fluorescent Penetrant Inspection (FPI)
b.	Fluorescent Magnetic Particle Inspection (FMPI)
c.	Eddy Current (ET)
d.	Radiography (RT)
e.	Ultra Sonic (UT)
f.	Shearography (ST)
2.	Planner receives requirement from EN and ES to have NDI perform inspection and build WCDs to meet this requirement.
3.	Planner coordinates with NDI shop supervisor/work leader to determine if NDI procedures already exist that can be entered on the WCD to perform work
a.	If the answer to step 3 is **YES** continue with steps 4 and 5.
b.	If the answer to step 3 is **NO** skip steps 4 and 5, go directly to step 6.
4.	NDI supervisor or work leader concurs that the document/technical data that the planner will reference to in the NDI operation block of the WCD is correct and has a valid NDI procedure for the inspection called out for.
5.	WCD and part are forwarded to the NDI shop where inspection proceeds.
6.	NDI supervisor or work leader and planner meet with EN/ES to notify them that there is no established NDI procedure documented to inspect this part.

7.	EN/ES contacts OO-ALC NDI manager in the lab to have the 809 MXSS/CLA Physical Sciences develop a NDI procedure that meets EN/ES requirements for that part.
a.	Also at this time funding for the 809 MXSS/CLA to support this effort is established (i.e. 206).
b.	Funding is started from the requesting planning office.
8.	809 MXSS/CLA OO-ALC NDI manager works with EN/ES on the development of the NDI procedure to ensure EN/ES are getting the results needed and 809 MXSS/CLA knows all requirements i.e.:
a.	Type of defect/s looking for.
b.	Size.
c.	Location.
d.	Geometry.
e.	100% inspect or just a section of part.
f.	Accept/reject criteria.
g.	One time inspection.
h.	Requires new equipment.
i.	Inspection just accomplished at Hill AFB or other bases.
j.	Written procedure put in TO, TD, PO or locally developed procedure book/log.
9.	809 MXSS/CLA works with NDI shop to validate and verify new procedure, and ensure NDI shop can perform inspection. Identify if any training of NDI personnel needs to be accomplished for new procedure.
10.	Finished procedure is sent to EN/ES for endorsement/signature.
11.	EN/ES sends procedure back to MXDTA.
12.	EN/ES notifies planner of valid established procedure and gives planner document number of that procedure.
13.	809 MXSS/CLA forwards new procedures to NDI shop for implementation.
14.	Planner builds NDI procedure document number into WCD.
15.	Part and WCD get forwarded to NDI shop for inspection.

Table 19.3B. (Added) Process Flow Map for NDI Techniques/Procedures.



19.2.15. (Added) As required, a technician can manually record measurements taken during maintenance processes onto the WCD within the task description block. 309 AMARG will use the "Notes on Back" procedure found in paragraph 19.2.1.3.

19.2.16. (Added) The following Management Code (MGT/CD) are used on ITS and IMPRESA WCDs. "C" is used to indicate the WCD task requires a Scheduler's review of completed WCD for Accuracy, completeness of stamping and other WCD documentation requirements. "P" is used to indicate the WCD task requires a supervisor's review of completed WCD for Accuracy, completeness of stamping and other WCD documentation requirements. The MGT/CD "SP" (secondary PAC) is used to indicate the WCD task is critical and requires dual certification with either an "E" or "I" in the PAC/CD block. For ITS generated WCDs refer to Figure 19.5. and for IMPRESA generated WCDs refer to Figure 19.6.

Figure 19.5. (Added) Management Codes "SP", "P", "C" on ITS Generated WCD.

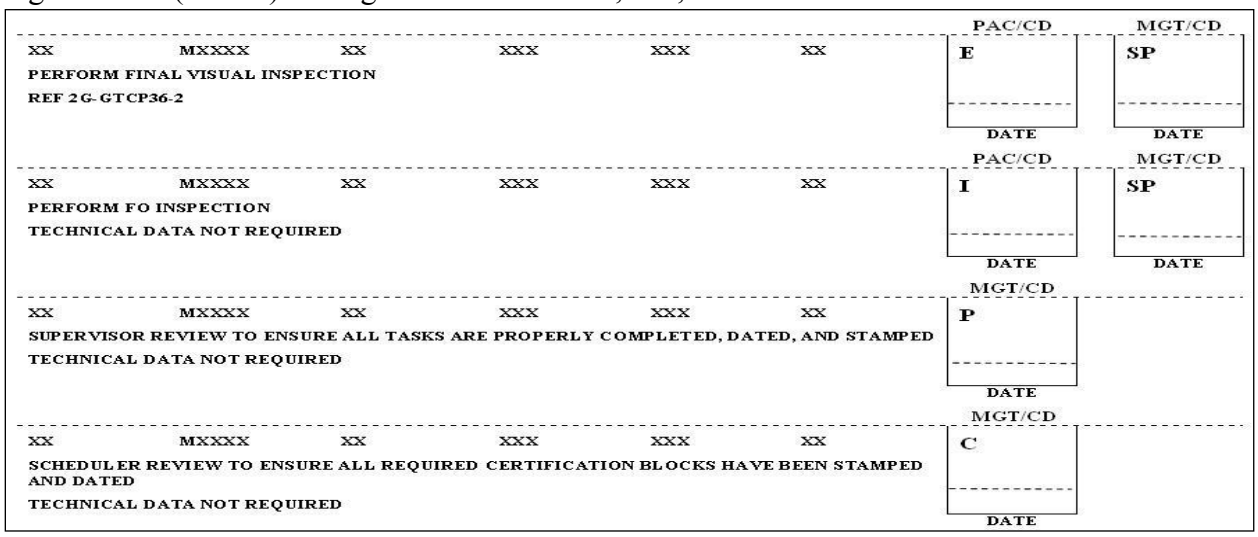
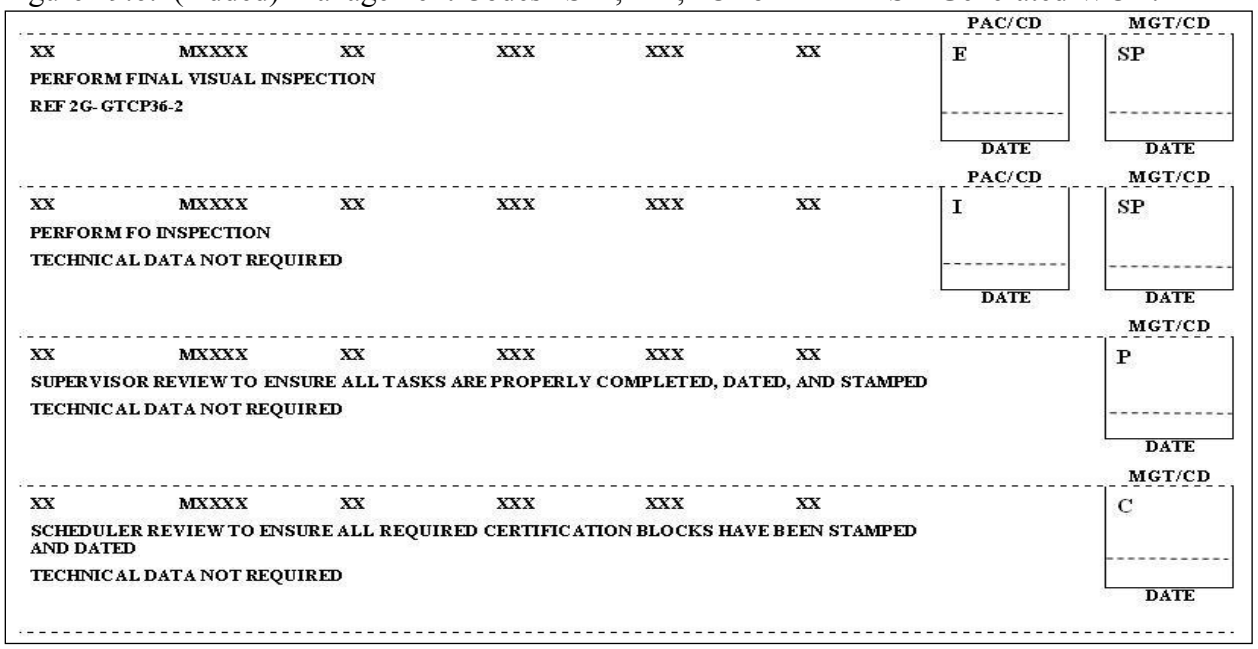


Figure 19.6. (Added) Management Codes “SP”, “P”, “C” on IMPRESA Generated WCD.



19.2.16.1. (Added) Any WCD task having an assigned inspection/certification code to include management code shall be stamped and dated when completed. Any production supervisor certifying an actual WCD identified maintenance process or task will meet the same training, qualification, and certification requirements as the PAC certified employee and will require a PAC record.

19.2.16.1.1. (Added) 309 AMARG a P-stamp will not be used to certify completion of a maintenance task.

19.2.16.2. (Added) Critical maintenance processes and critical maintenance tasks identified as In Accordance With (IAW) require the technician to have technical data open and in use. This means the technician has reviewed procedures, warnings, cautions, and Notes for the maintenance process or maintenance task before starting the job. The technician has the approved technical data open to the applicable process or task in work. The technician performing the process or task will be able to point to the exact step being accomplished in the technical data but need not be on the exact page when approached.

19.2.16.3. (Added) PPT and a group appointed complex process engineer shall thoroughly review all technical data ensuring identification of maintenance processes. Maintenance processes are reviewed by complex process engineers who in turn, as required, develop Process Orders ensuring requirements called out in technical data governing these processes are developed specifically for like end items undergoing depot overhaul. Maintenance processes in technical data are considered treatment and/or preparation processes. For example, heating, baking, welding, non-destructive process methods, cold working processes such as shot peening, high velocity oxygen flame spray, chemical cleaning, chrome plating, anodizing, alodining, etc. The PPT and complex process engineer shall determine if a maintenance process is critical and requires secondary certification on the WCD. The appointed complex process engineer will respond to the PPT when an actual WCD maintenance process is being identified/reviewed/changed/updated etc including if the WCD identified a Process Order. The

complex process engineer shall coordinate and sign off on the AFMC Form 500, *Work Control Document Production Planning Team Checklist*. When the complex process engineer and PPT can't determine if an identified maintenance process not identified by a warning or caution is deemed critical and requires secondary certification the Planner shall contact the Supply Chain Manager (SCM) Engineering Authority (EA) for assistance. The Planner shall ensure when contacting the SCM EA a documentation audit trail from the SCM EA is captured. The Planner can request the SCM EA sign the AFMC Form 500. Minimally if the SCM EA signature isn't obtained the Planner shall ensure an audit trail of documentation from the SCM EA is attached to or included on the AFMC Form 500. Maintenance processes not clearly defined in technical data shall have an AFMC Form 202 submitted to the Supply Chain Manager Engineering Authority.

19.2.16.3. (Added) PPT shall thoroughly review all required technical data ensuring identification of IAW tasks and critical maintenance processes and critical maintenance tasks requiring secondary certification on WCDs. When the PPT can't determine if an identified maintenance task not identified by a warning or caution is deemed critical and requires secondary certification the Planner shall contact the SCM EA for assistance. The Planner shall ensure when contacting the SCM EA a documentation audit trail from the SCM EA is captured. The Planner can request the SCM EA sign the AFMC Form 500. Minimally, if the SCM EA signature isn't obtained the Planner shall ensure an audit trail of documentation from the SCM EA is attached to or included on the AFMC Form 500. All critical tasks covered by tech data shall have tech data identified as IAW on the WCD. PPT determined critical tasks not covered by technical data will contain the following or equivalent statement, "Technical Data Not Required" within the task description block.

19.2.16.3.1 (Added) The following provides minimum requirements the PPT will use to identify WCD IAW processes and tasks including identification of critical process and tasks requiring secondary certification on WCDs:

19.2.16.3.1.1. (Added) Use of tech data identified as "Preliminary" will be identified as IAW.

19.2.16.3.1.2. (Added) The WCD operation identifies a secondary certification of "I". The FO inspection should not be identified as "IAW" unless the technical data specifically requires the performance of a FO inspection and then this FO task shall be identified as IAW.

19.2.16.3.1.3. (Added) The WCD operation requires a "critical" measurement be taken to determine serviceability, ensure proper assembly or are required in order to proceed to the next step in repair or test process will be identified as IAW.

19.2.16.3.1.4. (Added) The WCD operation requires critical "specific" torque requirements in order to assemble or test an item. Example: Torque of a panel fastener or clamp bolt is a general torque while the torque on a bearing retaining nut is a "specific" torque will be identified as IAW.

19.2.16.3.1.5. (Added) The WCD operation are identified as "Tasks Must be Accomplished and Certified in Step-By-Step Order" will be identified as IAW.

19.2.16.3.1.6. (Added) The WCD operation involves critical assembly, installation, inspection, repair, rigging, functional/operational testing, etc., of munitions, rocket motor, life support system, egress system, aircraft canopy, landing gear, aircraft engine and components of aircraft engines, aircraft auxiliary power systems, aircraft gearboxes, aircraft flight control surfaces,

aircraft hydraulic and fuel components.

19.2.16.3.1.7. (Added) Other criteria that can be used to identify WCD tasks as IAW are the WCD operation with chronic: (1) rework issues, (2) deficiency reports, (3) quality assessment rating (QAR) of three (QAR-3), and (4) quality verification inspections rated QAR-3.

19.2.16.3.1.8. (Added) All WCD FO/Rag inspections will be coded with either an "E" or "I" inspection certification code.

19.2.16.6. (Added) When the WCD operation identifies critical maintenance process or task (secondary in-process certification) performed by a team, the team chief will brief all team members on safety requirements prior to process or task initiation. In cases of incomplete work at shift change, sufficient documentation will be provided by the off-going shift supervisor or wage leader to ensure the work, when continued, will not require unnecessary re-accomplishment of previous processes or tasks. Processes or tasks on the WCD not completed due to shift change will be annotated as follows:

19.2.16.6.1. (Added) The off-going supervisor or wage leader will describe the completed work in an established log book identifying the WCD operation or production control number (PDN), job order number (JON) and specific WCD operation or sub-operation. The technician who subsequently completes the process or task will certify completion by properly stamping and dating the WCD task in the appropriate certification block.

19.2.16.6.2. (Added) If the follow-on technician is unable to appraise the work already completed the shift supervisor or wage leader will determine how to proceed.

19.2.16.6.3. (Added) When definitized lists are used to document tasks accomplished by more than one individual, the individual certifying the source AFMC Form 173 is stating that the operations he/she performed on the definitized list were done correctly and all other operations on the definitized list are stamped/dated. The source AFMC Form 173 should be M-coded.

19.2.16.6.4. (Added) For 309 AMARG team task certifications, the person designated as team leader will ensure all tasks of the operation have been completed, stamped and dated on the WCD.

19.2.16.7.1 (Added) 309 AMARG: This will also include changing an X code to an M code. The supervisor will not date and stamp above the inspection block. The date and reason for the upgrade will be annotated on the back of the WCD using the "Notes on Back" procedures in **paragraph 19.3.5.1.2.**

19.2.16.7.2. (Added) A QAS may add a Q code above block 29 of the AFMC Form 173 or in the Other/Insp (third column) of the definitized list. On the AFMC Form 959 the QAS may add a Q in block 20, third column identified with a Q. On an ITS equivalent WCD, to the right of the current certification code block the QAS will manually enter an inspection certification code block entering a Q inside the block. All Q entries will be done in Red. The QAS will affix a stamp and date next to the manually entered Q code on the applicable WCD and an informational Note as to the reason. Upon completion of the evaluation the QAS shall stamp and date the manually entered Q code. Only a QAS is authorized to stamp or enter Not Inspected (NI) the stamping and dating the NI on a Q coded WCD operation or sub-operation.

19.2.16.7.2.1. (Added) 309 AMARG: A Q-code may be added by a QAS for the purpose of identifying an operation the QAS wants to evaluate at completion. The QAS will add a Q in red

ink in block 20. The date and reason for the change will be annotated on the back of the WCD using the "Notes on Back" procedures in **paragraph 19.3.5.1.2.** A QAS will stamp and date block 20 when the evaluation is complete. Procedures contained in paragraphs 19.2.6.3 and all supporting sub paragraphs shall be revie

19.2.16.7.3. (Added) Downgrades to Inspection/Certification Codes. wed. No process or task with an inspection/certification code of E or I will be downgraded. Downgrades to maintenance processes shall require coordination and approval through quality and Process Engineering organizations. Downgrades to maintenance task shall require coordination and approval through quality organization and SCM EA. Any downgrade to an inspection certification code shall require mandatory documentation and coordination of the AFMC Form 500 through quality, Process Engineering and/or the SCM EA.

19.2.17. (Added) Handwritten ops on WCDs (AFMC SUP states "Local Procedures will be developed"…No procedure)

19.2.18. (Added) When a 309 AMARG aircraft is moving to a new maintenance phase, the existing WCD is closed in MAXIMO, and all operations reviewed for completion. Remaining open operations will be carried forward to the aircraft AFTO Form 781 forms or to a carry forward WCD for completion later in the process. Operations to be carried forward will be identified on the original WCD by using "Notes on Back" procedures. On the back of the page, annotate operation number, "Carried forward to WCD or 781" stamp and date. After the original WCD is completed and closed, the new WCD for the next maintenance phase will be activated and issued to the appropriate production teams. Items identified as "over and above" and not approved for repair by the PAO, will be similarly annotated on the WCD and included in the aircraft 781 forms upon their re-instatement.

19.2.18.1 (Added) After the 309 AMXG Maintenance Review Team (MRT) transfers an aircraft to flight test, all discrepancies documented in the aircraft form 781 will have a mirroring WCD to accompany each discrepancy. All discrepancies, planned and over and above listed in the 781A's will reference the assigned MWR number or WCD operation number. This number will be annotated within the discrepancy block.

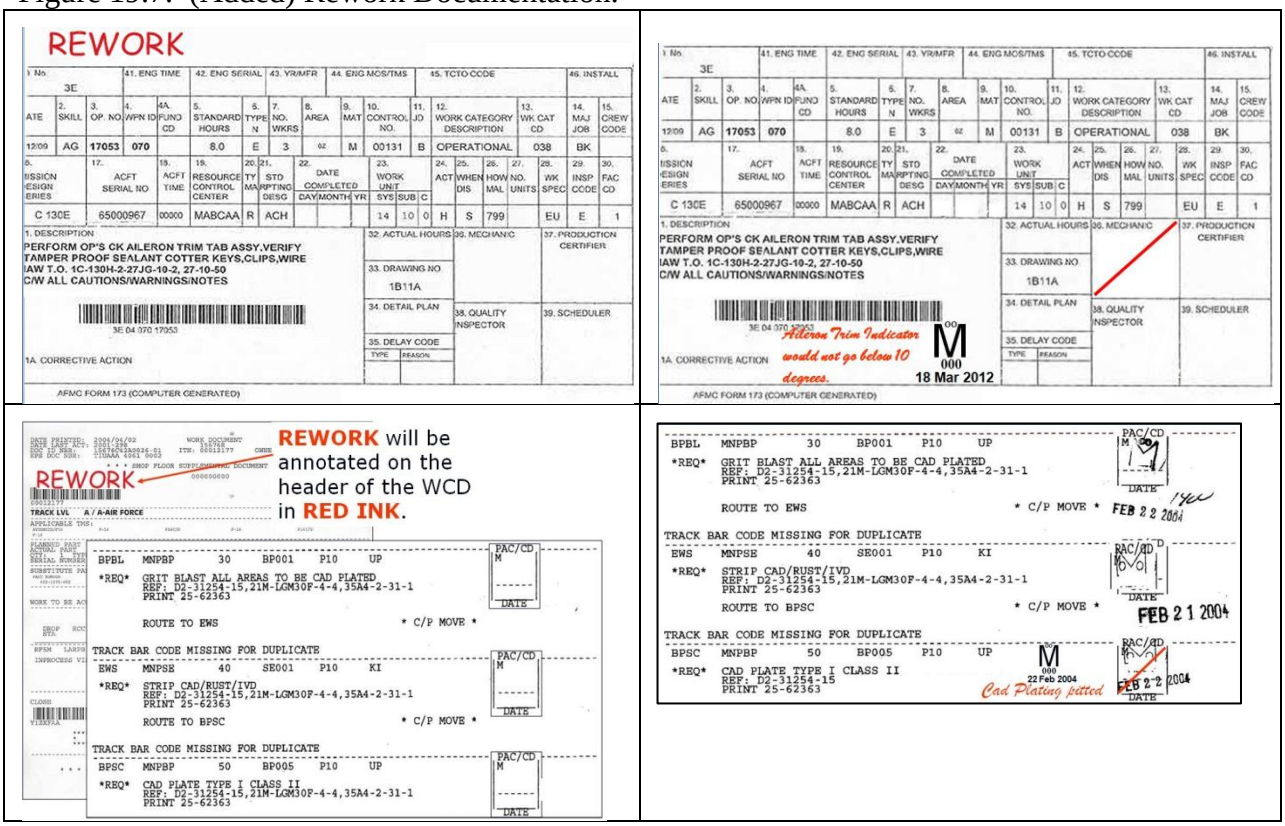
19.2.18.2 (Added) All WCDs associated with aircraft depot maintenance will be physically/individually accounted for and placed in aircraft dead file (See chapter 20) prior to aircraft delivery. This requirement includes planned /unplanned WCDs, duplicate WCDs, routed back shop WCDs, routing orders/condition tags and all Depot Field Team documents. Groups will develop supplemental guidance to meet this requirement.

19.2.18.3. (Added) 309 AMXG will document non-production crash damage repair aircraft maintenance actions using AFTO Form 781 series and/or AFMC Form 959.

19.2.19. (Added) 309 AMXG rework is defined as all labor hours expended and/or material utilized to correct nonconforming conditions (damage) caused as a result of maintenance actions, or lack of action, while an asset (end item, weapon system, subsystem, or any part thereof, etc.,) is under 309 AMXG control. The labor hours expended to correct "organically caused" deficiencies fall under the category of rework.

19.2.19.1. (Added) A stamped and dated informational Note will be included in the task description block indicating an item must be reworked. See Figure 19.7.

Figure 19.7. (Added) Rework Documentation.



19.2.19.2. (Added) Flight Test Rework. If flight test discovers a problem suspected to be rework, the responsible scheduler and planner will email the appropriate production supervisor or designee and scheduler a description of the discrepancy and courtesy copy the PAO. The production supervisor or designee will research the suspected discrepancy. If the supervisor or designee determines that it is rework they will "Reply to All" in original email, provide the responsible scheduler and planner with the operation number suspected of causing the rework and a rework MWR will be submitted and a O&A WCD generated and approved for 0.1 hours. The following statement will be entered in the planners dispute block "REWORK Operation Number (OP) OPXXXXX". If the supervisor or designee determines it is not rework they will notify the responsible scheduler and planner that the discrepancy was an incoming condition and an MWR is submitted and an O&A WCD generated and approved for time. The following will be entered in the planner's dispute "INCOMING CONDITION". Depending on the severity of the discrepancy, it may be entered in the AFTO 781 series forms and carried to home station.

19.2.19.3. (Added) 309 AMARG when the 577 CRS receives a report of discrepancy that a wrong part is sent to a customer and it is determined that the fault lies with 309 AMARG, rework procedures will be as follows: Obtain the original completed WCD; create a new WCD with a suffix to the original document number and man-hour accountability charged to "rework". Attach a copy of the completed original WCD to the new WCD. When the part in question is returned to 309 AMARG, it will be processed into the storage account through the 578th Storage & Disposal Squadron. The status of the part on the removal item listing (C03) will be changed to storage account or return to aircraft by reversing the "L" code transaction.

19.2.19.4. (Added) 309 AMXG Rework. It is the responsibility of 309 AMXG to strive for

constant product improvement by identifying inefficient maintenance operations such as workmanship defects that lead to rework of an end item. Data relative to the cost, profit and loss, labor, and material associated with that rework will be collected and analyzed to determine if rework costs have exceeded the fiscal year budget. This data is found in the Time and Attendance (TAA) System by inquiry in "Processed Labor" by rework JON (X51112614000) and RCC and date range.

19.2.19.4.1. (Added) 309 AMXG the production chiefs assigned to 309 AMXG will ensure compliance with the guidelines specified in this section, and will be responsible to ensure adequate corrective actions are taken to validate the process that contributed to the rework, (e.g., rework is accomplished, training provided, tooling and equipment are upgraded, etc.). Any information that identifies the effectiveness of corrective actions taken by the production chiefs will be briefed to 309 AMXG during the monthly squadron level team review.

19.2.19.5. (Added) The OO-ALC/QPA will perform an audit of rework procedures upon request.

19.2.19.6. (Added) 309 AMXG Rework of Items Still in Maintenance:

19.2.19.6.1. (Added) Production personnel performing maintenance actions will verbally advise their production supervisor when any material or end item, weapon system, subsystem, or any part thereof, etc., is damaged as a result of maintenance actions, or lack of, to include defects attributable to errors in workmanship while the end item is still undergoing maintenance.

19.2.19.6.2. (Added) The production supervisor will assess damage caused as a result of maintenance actions and any errors in workmanship. The production personnel mechanics or supervisors will complete an MWR worksheet for aircraft maintenance squadron. All rework reported will need to be identified back to the originating cell or RCC that performed the maintenance. Comments on the worksheet or MWR must be completed following guidelines beginning in paragraph 19.2.19.12. of this rework section. The scheduler/ALS or planner will initiate appropriate WCD(s) for all rework. Scheduler/ALS will electronically file the worksheet or MWR into the appropriate systems.

19.2.19.6.3. (Added) Production, scheduling and planning will attempt to identify all rework back to the original operation. The mechanic will enter the time into PDMSS or via TAA and log onto the WCD the scheduler has assigned for rework.

19.2.19.7. (Added) 309 AMXG the following categories are not considered rework:

19.2.19.7.1. (Added) Unavoidable periodic calibrations and adjustments.

19.2.19.7.2. (Added) Work normally required to hand-fit or select-fit parts in an assembly.

19.2.19.7.3. (Added) Work done as a result of incoming or preliminary diagnostic tests and inspections performed to determine necessary repairs and replacements. When an item fails a particular step in a diagnostic test composed of a number of sequential steps, is then repaired but subsequently fails a later step in that test, rework will not be charged unless the subsequent failure is attributable to a discrepancy in the earlier repair.

19.2.19.7.4. (Added) Additional work performed as part of the most economical method of doing a job. The exclusion does not apply when the additional work is required to correct work previously done on an item.

19.2.19.8. (Added) 309 AMXG Management of Rework Costs While TDY. If the purpose of the TDY is to correct a discrepancy due to 309 AMXG maintenance actions, the team chief will ensure all costs are charged to overhead as stated in this section.

19.2.19.9. (Added) 309 AMXG Quality Deficiency Reports. When analysis of the Quality Deficiency Report exhibit determines the technology repair center was at fault, all material and labor associated with the rework of the end item will be done IAW the instructions in this section.

19.2.19.10. (Added) 309 AMXG Labor Costs: Production count will not be taken for operations undergoing rework. The production shop employee will document time expended on rework against X51112614000.

19.2.19.11. (Added) 309 AMXG Ordering Material.

19.2.19.11.1. (Added) Production shop employees will use an AFMC Form 95, *Issue Request*, for any material ordered in support of rework. The production shop supervisor will ensure the form indicates the material is in support of rework by annotating or stamping the word "rework" on the top margin of the form.

19.2.19.11.2. (Added) All 309 AMXG material associated with the rework process is ordered by the 709th Maintenance Support Squadron production support personnel as overhead material using U6800 or U6812 as the control number.

19.2.19.11.3. (Added) Expendable items normally ordered under cost code "A", "L", or "R", will be ordered with control number U6800, cost code "L".

19.2.19.11.4. (Added) Kits ordered under cost code "D", and all expense material ordered under cost code "M" will be ordered with control number U6800, cost code "X".

19.2.19.11.5. (Added) With investment or exchange material, use U6812 with same cost codes for those items normally procured as cost codes "B" or "G".

19.2.19.12. (Added) 309 AMXG Rework Analysis.

19.2.19.12.1. (OO-ALC Added) Analysts from the price and availability (P&A) section of aircraft or a management analyst from the back shop area will analyze the data and build monthly first time pass yield rate charts. The analyst will then submit charts and data to the squadron director or equivalent to be briefed at the monthly squadron team reviews.

19.2.19.12.2 (Added) The 309 AMXG/QPA QA analysts will provide all weapons system P&A section analysts with the first time pass yield rates for all panel/area and paint inspections by the tenth working day of each month. The P&A analysts will incorporate QA data into their first time pass yield rate charts.

19.2.19.12.3. (Added) Data is compiled into the PDMSS web, https://apfemweb/mabr/Wdev/lms-athome.asp via the depot data storage system. This is for both back shop, ITS, and aircraft, PDMSS. Information on MWR, ITS worksheet and the original documents can all be found on this website for research.

19.2.19.13. (Added) Other Than Re-Work WCD Documentation Requirements. WCD operations requiring further investigation for an unknown condition will have a red circle placed around the inspection/certification block. The technician discovering an unknown condition

shall place an informational Note within the task description block stamping and dating informational Note. (See Figure 19.8.)

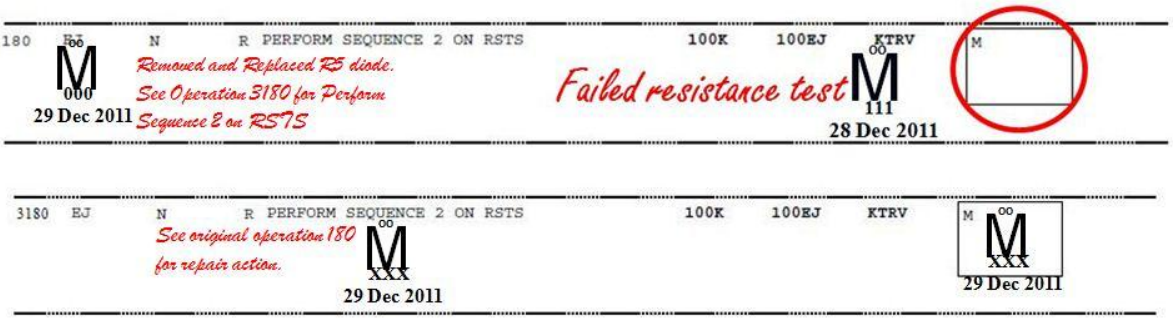
Figure 19.8. (Added) Other Than Re-Work Documentation.

19.2.19.13.1 (Added) Any individual stamping and dating a red circle for a specific maintenance task shall be PAC certified for the task. The individual stamping and dating in the inspection/certification block with the red circle is indicating the required maintenance or inspection (repair, replace, within limits, etc.) requiring further investigation was performed and found the condition satisfactory. A stamped and dated informational Note shall be used within operation task description block to identify what maintenance or inspection was performed to correct the red circle (repair, replace, within limits, etc.). See figure 19.9.

Figure 19.9. (Added) Clearing Red Circle Operation

19.2.19.13.2. (Added) When a new operation is created and the original operation with the red circle inspection/certification block isn't cleared per paragraph 19.2.19.13.1., the technician performing the required maintenance or inspection (repair, replace, within limits, etc.) correcting the unknown condition shall insert a stamped and dated informational Note within the original operation task description block identifying see operation XXX including what maintenance or inspection was performed to correct the red circle (repair, replace, within limits, etc.). When the new operation inspection/certification block is stamped and dated the new operation shall have a stamped and dated informational Note placed in the new operation task description block stating see original operation XXX for repair/corrective action. See figure 19.10

Figure 19.10. (Added) Clearing Red Circle Operation with New Operation



19.2.20.3. (Added) Routes between organizations. The requesting organization can assist the tasked organization with WCD development.

19.2.20.3.1. (Added) A WCD will be attached to the applicable routing document when a route

is required. See Table 19.4. for instructions on completing AFMC Form 137, *Routed Order (Project Directed).*

Table 19.4. (Added) Instructions for Completing AFMC Form 137, *Routed Order (Project Directed).*

BLOCK	DESCRIPTION
1	Aircraft serial number (see note 1)
2	Aircraft model, description and series (see note 2)
3	Production number (see note 3)
4	Quantity. Enter the number of items being processed with AFMC Form 137
8	Name of the document originator
9	Date document originated
16	Item serial number (if obtainable)
22	M-stamp number (or E-number if process performed is outside of PAC program). This will signify that portion of the route was completed. Numbers may be hand scribed or stamped but **not** pre-printed.
25	Flow days (if local directives require)
29	Completion date of routed process
28	Skill of support shop (if local directives require)
34	Date due (back to the user)
Unplanned Item: When the AFMC Form 137 document is not available for an item removed from a serial number, the following additional items must be taken	
NOTE 1	309 AMXG. Only The responsible ALS will be notified
NOTE 2	309 AMXG. Only The routed item listing should be researched to determine if the item is listed for the project under which the serial number is being processed
NOTE 3	309 AMXG. Only If the item is not a part of the negotiated package as determined by the MRT, but the item must be bench checked or have minor repair, a complete AFMC Form 137 will be hand-scribed.
NOTE 4	The hand-scribed AFMC Form 137 will be sent to the PAO along with other documentation identified for approval. If not approved, the hand-scribed AFMC Form 137 will be destroyed. In no case will an item have a hand-scribed AFMC Form 137 attached without PAO Approval.
NOTE 5	This form is available at: http://www.e-publishing.af.mil/shared/media/epubs/afmc137.xfd. When the document has been completed it will be attached to the item for which it was written. This will be accomplished by placing the AFMC Form 137 into a protective envelope/pouch. An AFMC Form 137 will not be used as a WCD.

19.2.20.4. (Added) Routed Item Production Count. Routed Items using AFMC Form 137 must be accompanied with a production and operation number for production count purposes.

19.2.20.4.1. (Added) WCDs for Indirect "S" JON cost class 4 (CC4) work. Organizations performing "S" JON CC4 work will use an approved WCD to document accomplishment of CC4 work. The WCD will be attached to the applicable routing document when a route is required. When requested, a copy of the WCD will be attached to the routing document and provided to the organization receiving the item showing accomplishment of operations. For additional

information on CC4 work, refer to AFMCI 21-156, *Operational Work loading, Planning and Scheduling Control*.

19.2.20.4.1.1. (Added) 309 AMARG uses MAXIMO to document routed items for repair throughout the maintenance division and RCC support shops. The router WCD, along with the item, will be provided to the mechanic for certification of the task identified. When the job has been completed, the stamped WCD router and item will be returned to the initiating maintenance organization. The WCD router will be attached to the original core WCD.

19.2.20.4.1.2. (Added) 309 AMARG a WCD router must accompany the part or aircraft when separate support operations are accomplished concurrently with the master WCD. When all operations are complete, the technician will close the operations in workplace and return the stamped and dated WCD router to the requestor. The requester will attach the router WCD to the master WCD for audit and tracking purposes. On the master WCD write "Notes on Back" in block 17 of the routed operation. On the back of that page write, "OPN xx carried forward to attached router WCD".

19.2.20.4.1.3. (Added) 309 AMARG for SBSS items, the DD Form 1348-1A, *DOD Single Line Item Requisition system Document (Manual),* is routed to the wood mill and a copy is attached or copied on the WCD router. Wood mill will stamp and date WCD router but will not close operations when completed. Item and router will be sent to shipping for worker to stamp and date WCD router but will not close operations when completed. WCD router will be sent to the planner for attachment to the master WCD. Upon completion of the quarterly WCD, the scheduler will review operations, stamp and date the master WCD. 577 CRS routed items will use the original master WCD.

19.2.20.5. (Added) WCDs for support agreements. An approved WCD will be used for support agreement work. The WCD ensures proper control of all support work to include ensuring required maintenance actions are performed and to ensure return of the items to a final destination. The AFMC Form 137 will be attached to the WCD. When requested, a copy of the WCD will be attached to the routing document and provided to the organization receiving the item showing accomplishment of operations.

19.2.21. (Added) When requested, a copy of the WCD generated as the result of an authorized AFMC Form 206 will be attached to the routing document and provided to the organization receiving the item showing accomplishment of operations. For additional information on temporary work refer to AFMCI 21-156.

19.2.21.1. (Added) 206 Special Instructions containing actual technical data procedures will require the performing workcenter to initiate and submit an AFMC Form 202 back to the responsible engineer containing the exact 206 Special Instructions technical data procedures. The 206 control number shall be entered in block 8 and block 23B of the 202. The AFMC Form 202 will then be the source technical data identified on the WCD. If the 206 identifies technical data by number then that technical data will be the source technical data used to perform the requirements of the 206 and also identified on the WCD. The AFMC Form 202 shall be attached to the WCD per requirements of AFMCMAN 21-1 and paragraph 19.2.4.2 of this supplement.

19.2.22. (Added) When a deficiency "G" JON is required for an active MISTR production item, the scheduler will contact the appropriate work loader for the work loader technician code, product control number (PCN), funds classification reference number to see if funding is loaded

for the current quarter in the Defense Industry Financial Management System. ITS produced work scope or "W" documents are approved WCDs for deficiency investigation.

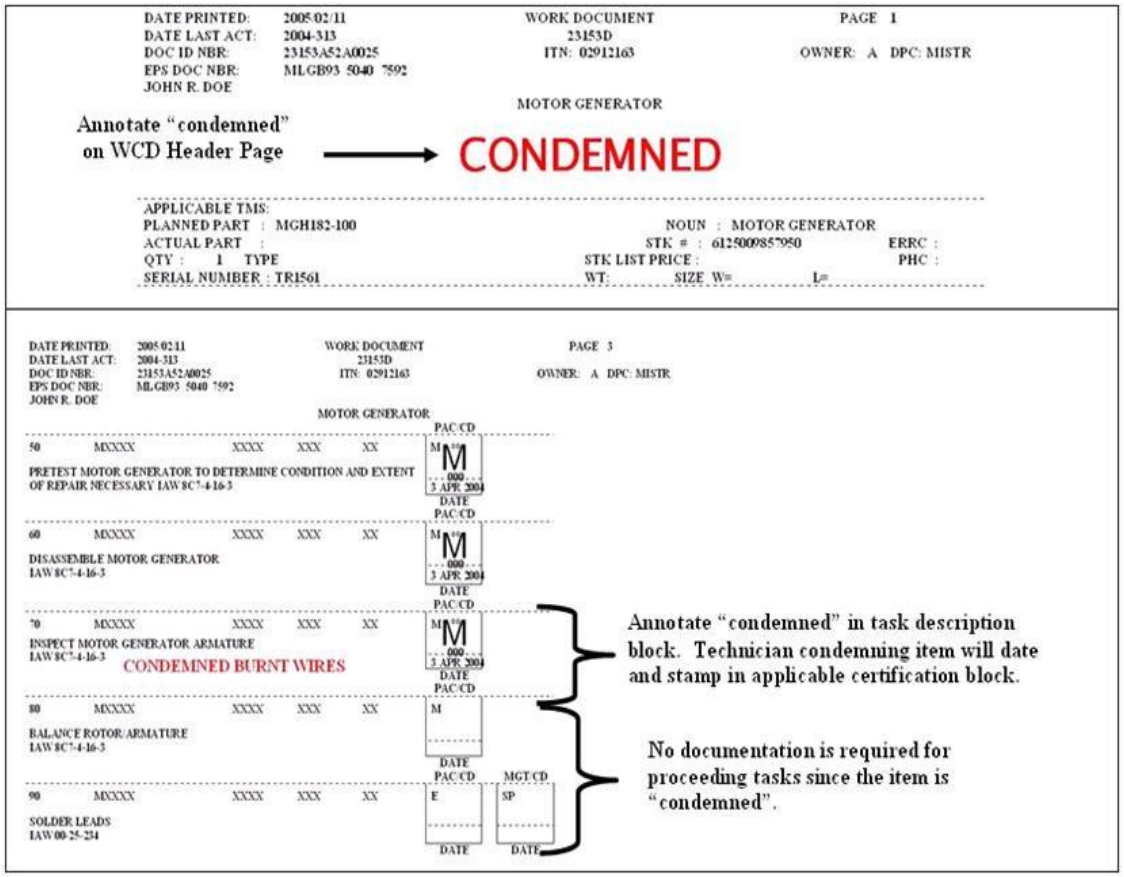
19.2.22.1. (Added) If there is not an established "G" JON, the planner will contact the work loader for a PCN and FCRN. The planner establishes an "Establish Work Authorization Non-MISTR (600D)" in the G004L.

19.2.23. (Added) Condemned Parts WCD Documentation. When a part is condemned the technician condemning the part will stamp and date the appropriate WCD inspection/certification block, and enter in the operation task description block the word "condemned", and include the word "condemned" on the header first page of the WCD. No technician documentation is required for operations not completed due to parts condemned. For condemned WCD documentation requirements see figure 19.11.

19.2.23.1. (Added) The production supervisor and scheduler are required to stamp and date the condemned WCD.

19.2.23.2. (Added) Condemned WCDs shall be retained for a minimum period of 2 years. WCDs associated with parts condemned prior to work documentation (no operations started) may be destroyed and are exempt from retention.

Figure 19.11. (Added) Condemnation Documentation.



19.2.24. (Added) NRTS (Not Repairable This Station) Documentation Requirements. When a part is NRTS the technician who NRTS the part will stamp and date the appropriate WCD inspection/certification block, entering in the operation task description block "NRTS" and

include the word “NRTS” on the header first page of the WCD. No technician documentation is required for operations not completed due to parts NRTS. For NRTS WCD documentation requirements refer to figure 19.11. NRTS shall be used as the documentation.

19.2.24.1. (Added) The production supervisor and scheduler are required to stamp and date the NRTS WCD.

19.2.24.2. (Added) NRTS WCDs shall be retained for a minimum period of 2 years. WCDs associated with parts NRTS prior to work documentation (no operations started) may be destroyed and are exempt from retention.

19.2.25. (Added) AWP (Awaiting Parts) Parts WCD Documentation. When a part is placed into AWP status the technician will stamp and date ‘*outside*’ the WCD inspection/certification block, entering within the operation task description block the word “AWP” and enter “AWP” on the WCD header first page. No technician documentation is required for operations not completed due AWP.

19.2.25.1. (Added) No production supervisor and scheduler stamp and date is required on the identified AWP WCD when a part is placed into AWP status.

19.2.25.2 (Added) The AWP WCD shall remain with the part or in an identifiable location where the WCD is easily traceable to the location the AWP part is stored.

19.2.25.3 (Added) When an original AWP WCD contains some ‘completed’ operations that were stamped and dated by production, this WCD will be attached to the back of the ‘new’ WCD The new WCD operations originally completed on AWP WCD shall have inserted within the operation task description block a stamped and dated informational Note stating PCW see AWP WCD operation XX.

19.2.26. (Added) Other than condemned, NRTS, AWP WCD Documentation Requirements for New WCD Replacing Partially Completed Production Stamped and Dated WCD.

19.2.26.1 (Added) When an original WCD contains some ‘completed’ operations that were stamped and dated by production, the original WCD will be attached to the back of the ‘new’ WCD. The original WCD will be annotated as follows: 1) Annotate on the header ‘*See new attached WCD*’ or equivalent statement the scheduler shall stamp and date next to this informational Note 2) All operations ‘not’ completed and if in consecutive order will be Z’d out. Each page that contains undocumented consecutive operations will also be Z’d out 3) An informational Note of see new WCD will be placed next to the Z and stamped and dated.

19.2.26.2. (Added) If the original WCD contains no completed stamped and dated operations there is no need to keep the undocumented WCD unless directed otherwise by the organizations immediate management.

19.2.27. (Added) Lost WCD. Anyone within OO-ALC finding a WCD, inadvertently misplaced or detached from the part and the part can’t be located, will deliver the WCD to the appropriate scheduler for research. The scheduler will retain the WCD for a maximum of 90 calendar days in order to try to locate the appropriate part.

19.2.27.1. (Added) If the part does not have a WCD, the supervisor or designee where the part is located will contact the scheduler. Production and scheduling will make every effort to locate the missing WCD.

19.2.28. (Added) Processing a soiled, torn, mutilated or otherwise damaged WCD that is unreadable. A new WCD will be initiated as a "Replacement or Duplicate WCD" with a recording of all legible stamp numbers and entries on the new WCD. These WCDs will be returned to the applicable production shop foreman. Production shop foreman will determine appropriate action.

19.2.29. (Added) WCD Impoundment Documentation Requirements. Review impoundment procedures beginning with paragraph 9.6.1 of this instruction. If no procedures exist the following procedures will be followed for documentation of WCDs: Quality or designated impoundment official shall enter a bold red border on the front page of the WCD and include a stamped and dated informational Note in red stating impounded of the first page of the WCD.

19.2.30. (Added) WCD Documentation for Clecos. If Clecos must remain on an aircraft or component for multiple shifts, an informational Note will be made in aircraft AFTO Form 781 A record and/or in the WCD task description block of the specific WCD operation number where the Clecos were installed. This installation informational Note will identify quantity of Clecos installed and will be stamped and dated by the technician who installed the Clecos on the aircraft or component. When the Clecos are removed another informational Note will identify quantity of Clecos removed and be stamped and dated.

19.3.1. (Added) 309 AMXG Depot Field Team (DFT) Procedures. A DFT is an individual or group designated to perform maintenance and or inspection of systems or equipment at a place other than the organic depot.

19.3.1.1. (Added) When a DFT request is received; the respective weapon system should convene a DFT PPT meeting and determine the appointment of a DFT chief/lead as applicable. The DFT PPT shall include the appointed DFT chief/lead who will work together to establish a plan for the specific DFT requirements. The DFT PPT will develop all aspects of the plan including but not limited to the following:

19.3.1.1.1. (Added) WCD package.

19.3.1.1.2. (Added) Repair plan.

19.3.1.1.3. (Added) Listings of manning, tooling, material, equipment, and tech data requirements.

19.3.1.1.4. (Added) Personnel notification.

19.3.1.1.5. (Added) TDY requirement coordination with the travel office regarding number of people going TDY accommodations, rental cars, and travel requirements.

19.3.1.1.6. (Added) TDY requirements such as TDY address, host organization points of contact, pay, overtime, transportation, tool control, shipping, interim reporting, return procedures, safety concerns and any other related issues.

19.3.1.1.7. (Added) Provision of required information to the host unit to support the DFT.

19.3.1.1.8. (Added) Review of tasks and site for specific environmental issues.

19.3.1.1.9. (Added) When the DFT Team returns home the DFT chief/lead will debrief the DFT PPT and provide the package of completed WCDs. The DFT PPT will review the completed WCDs and file them the depot WCD dead file.

19.3.2.4. (Added) The PPT shall follow procedures contained in AFI 21-101_AFMCSUP paragraph 19.3.2.4 and for CSI and follow paragraphs 19.2.16.2., 19.2.16.3 and supporting paragraphs of this supplement for CSI requirements when a critical maintenance process or critical maintenance task is under review. Additionally the PPT shall ensure a review of the applicable weapon specific -6 Scheduled Inspection and Maintenance Requirement T.O. and weapon system -06 Work Unit Code Manual T.O. for forms documentation requirements of CSI and items requiring configuration control and serial number tracking.

19.3.2.6. (Added) OO-ALC PPTs shall use the AFMC Form 500 for all formal PPT reviews. The AFMC Form 500 will be maintained by the planner for WCDs electronically maintained in the IMPRESA, ITS, PDMSS and MAXIMO systems. Additionally, the AFMC Form 500 will be used for all electronically maintained AFMC Forms 959. The following provides minimum requirements on when the formal PPT will use AFMC Form 500:

19.3.2.6.1. (Added) Use for developing new workload WCDs and reviews of contractor supplied WCDs.

19.3.2.6.2. (Added) Use for submitted WCD change requests affecting the form, fit, or function of an established process.

19.3.2.6.3. (Added) Use when a submitted WCD change request affects a critical task.

19.3.2.6.4. (Added) Use when initially determining WCD critical and IAW tasks

19.3.2.6.5. (Added) Use when a WCD task identifies a planned DT&S within the task description block.

19.3.2.7. (Added) PPT requirements for new and revised workload first article inspection.

19.3.2.7.1. (Added) All WCDs or other records for first article, prototype and revised workload inspections will have a unique identifier to distinguish it from established WCDs and records of ongoing workloads. Printing on a designated color of paper may be an option.

19.3.2.7.2. (Added) First article and prototype inspections of products and deliverable software will be scheduled and performed IAW the standard engineering guide and OO-ALC Software Maintenance Group policy or AFMCI 21-156.

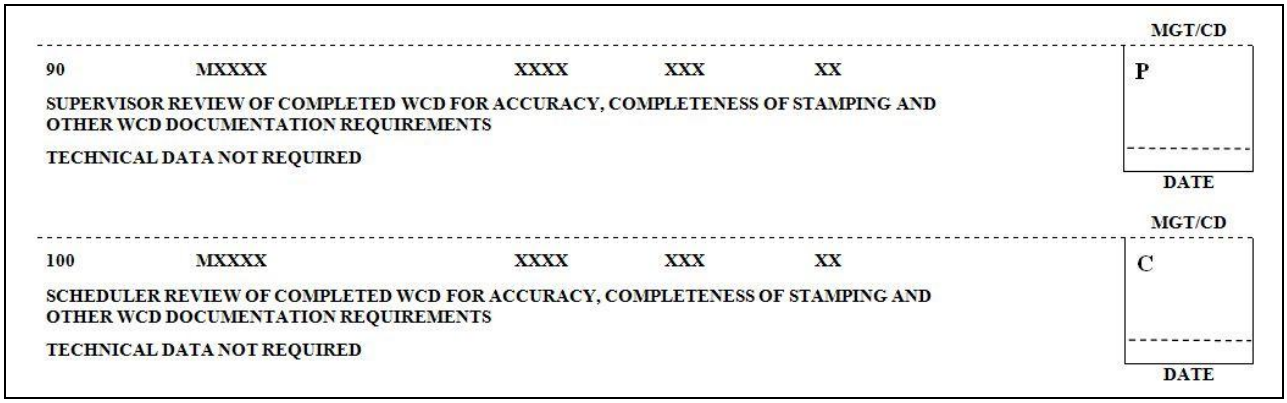
19.3.2.7.3. (Added) A full article inspection (FAI), or a partial FAI for affected characteristics of a revised workload, shall be performed and records of such a FAI shall be attached to the original FAI record, so that evidence is retained of the full qualification for all characteristics.

19.3.3.4. (Added) Planners using ITS, IMPRESA, Maximo will ensure the following:

19.3.3.4.1 (Added) A production supervisor WCD operation is developed and inserted at the end of the WCD. The MGT/CD for this task will be "P". The following or equivalent statement will be placed in the task description block: Supervisor Review of Completed WCD for Accuracy, Completeness of Stamping and other WCD Documentation Requirements.

19.3.3.4.2. (Added) Planners using ITS, IMPRESA, Maximo will ensure a scheduler WCD task is developed and inserted after the supervisor review task of the WCD. The MGT/CD for this task will be "C". The following or equivalent statement will be placed in the task description block: "Scheduler Review of Completed WCD for Accuracy, Completeness of Stamping and other WCD Documentation Requirements, Technical Data Not Required". (See Figure 19.12.)

Figure 19.12. (Added) ITS/IMPRESA Supervisor and Scheduler WCD Entries.



19.3.3.5. (Added) Whenever any planner makes a correction or change to a hardcopy WCD, the planner shall VOID in red the error and IET-stamp and date as close as possible to the change. (See Figure 19.13.)

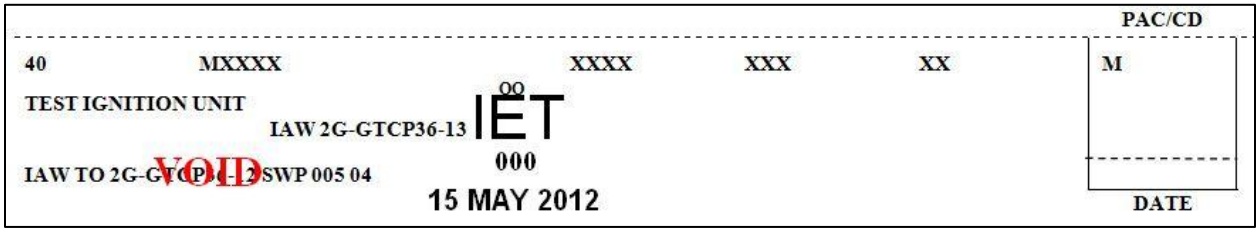
19.3.3.5.1. (Added) When making manual changes to any inspection/certification codes the planner shall follow procedures contained in AFI 21-101_AFMCSUP paragraph 19.2.16.7. and supporting subparagraphs including procedures contained in this supplement **paragraph 9.2.16.7.3.**

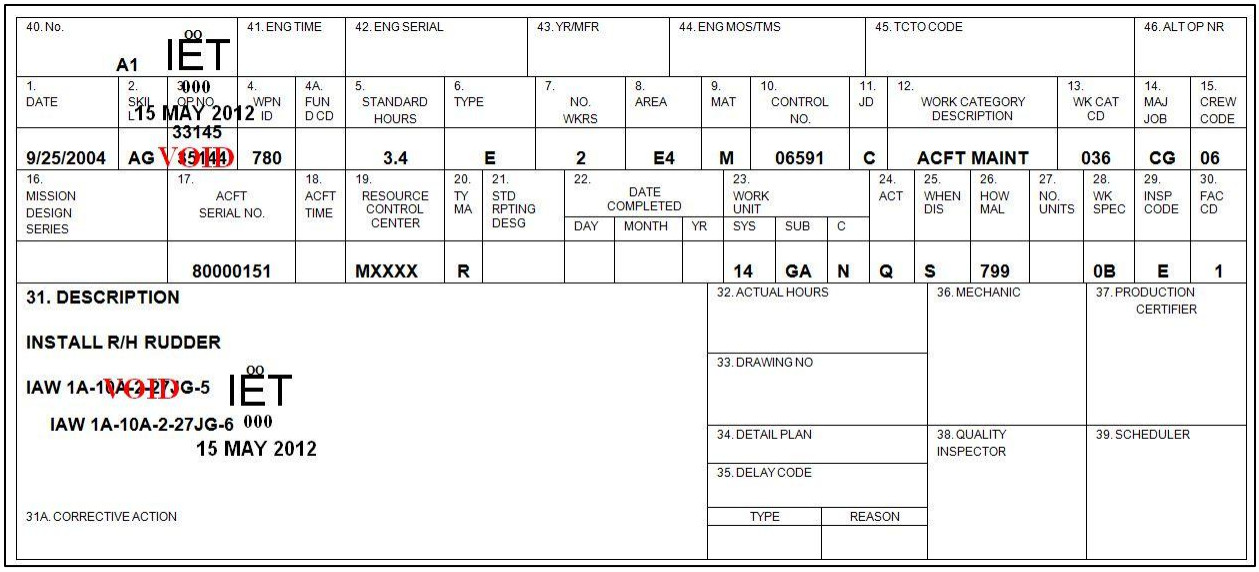
19.3.3.5.2. (Added) 309 AMARG manual planning changes or corrections to printed WCDs "in work". After the correction has been made, the planner annotates the reason for the correction, stamps, and dates in block 17. If additional Notes are required in block 17, use "Notes on Back" procedures outlined in **paragraph 19.3.5.1.2.**

19.3.3.5.3. (Added) The planner as required shall ensure the appropriate electronic WCD system PDMSS/G097, IMPRESA, ITS, MAXIMO is updated with all necessary changes or corrections.

19.3.3.5.4. (Added) 309 AMXG planners will ensure an operation that is verified as NA or NR is deleted in PDMSS and/or G097.

Figure 19.13. (Added) Planner Changes to Hardcopy WCD.





40. No.			41. ENG TIME	42. ENG SERIAL	43. YR/MFR	44. ENG MOS/TMS	45. TCTO CODE	46. ALT OP NR
A1 QQ IET								

1. DATE	2. SKIL	3. OP NO.	4. WPN ID	4A. FUN D CD	5. STANDARD HOURS	6. TYPE	7. NO. WKRS	8. AREA	9. MAT	10. CONTROL NO.	11. JD	12. WORK CATEGORY DESCRIPTION	13. WK CAT CD	14. MAJ JOB	15. CREW CODE
15 MAY 2012		000 33145													
9/25/2004	AG	15144 VOID	780		3.4	E	2	E4	M	06591	C	ACFT MAINT	036	CG	06

16. MISSION DESIGN SERIES	17. ACFT SERIAL NO.	18. ACFT TIME	19. RESOURCE CONTROL CENTER	20. TY MA	21. STD RPTING DESG	22. DATE COMPLETED DAY	MONTH	YR	23. WORK UNIT SYS	SUB	C	24. ACT	25. WHEN DIS	26. HOW MAL	27. NO. UNITS	28. WK SPEC	29. INSP CODE	30. FAC CD
	80000151		MXXXX	R					14	GA	N	Q	S	799		0B	E	1

31. DESCRIPTION

INSTALL R/H RUDDER

IAW 1A-10A-2-27JG-5 QQ IET VOID

IAW 1A-10A-2-27JG-6 000

15 MAY 2012

31A. CORRECTIVE ACTION

32. ACTUAL HOURS

33. DRAWING NO

34. DETAIL PLAN

35. DELAY CODE

TYPE | REASON

36. MECHANIC

37. PRODUCTION CERTIFIER

38. QUALITY INSPECTOR

39. SCHEDULER

19.3.4.10. (Added) Production supervisor as required will coordinate with the Group PAC Manager and ensure PAC tasks relate to the work described within the WCD operation task description block. See AFI 21-101_AFMCSUP paragraph 14.38.5. and **paragraph 19.2.9.1.** of this supplement.

19.3.4.13. (Added) Supervisor shall P-stamp and date completed WCDs as confirmation of Supervisor review of completed WCD for accuracy, completeness of stamping and other WCD documentation requirements prior to turn in to the production controller/scheduler. For PDMSS/G097 Generated AFMC Form 173 WCDs the supervisor shall stamp and date in the upper right hand corner. ITS, IMPRESA, MAXIMO and electronic generated AFMC Form 957 WCDs shall contain a planned operation ensuring production supervisor review. See **paragraph 19.3.3.4.1.**

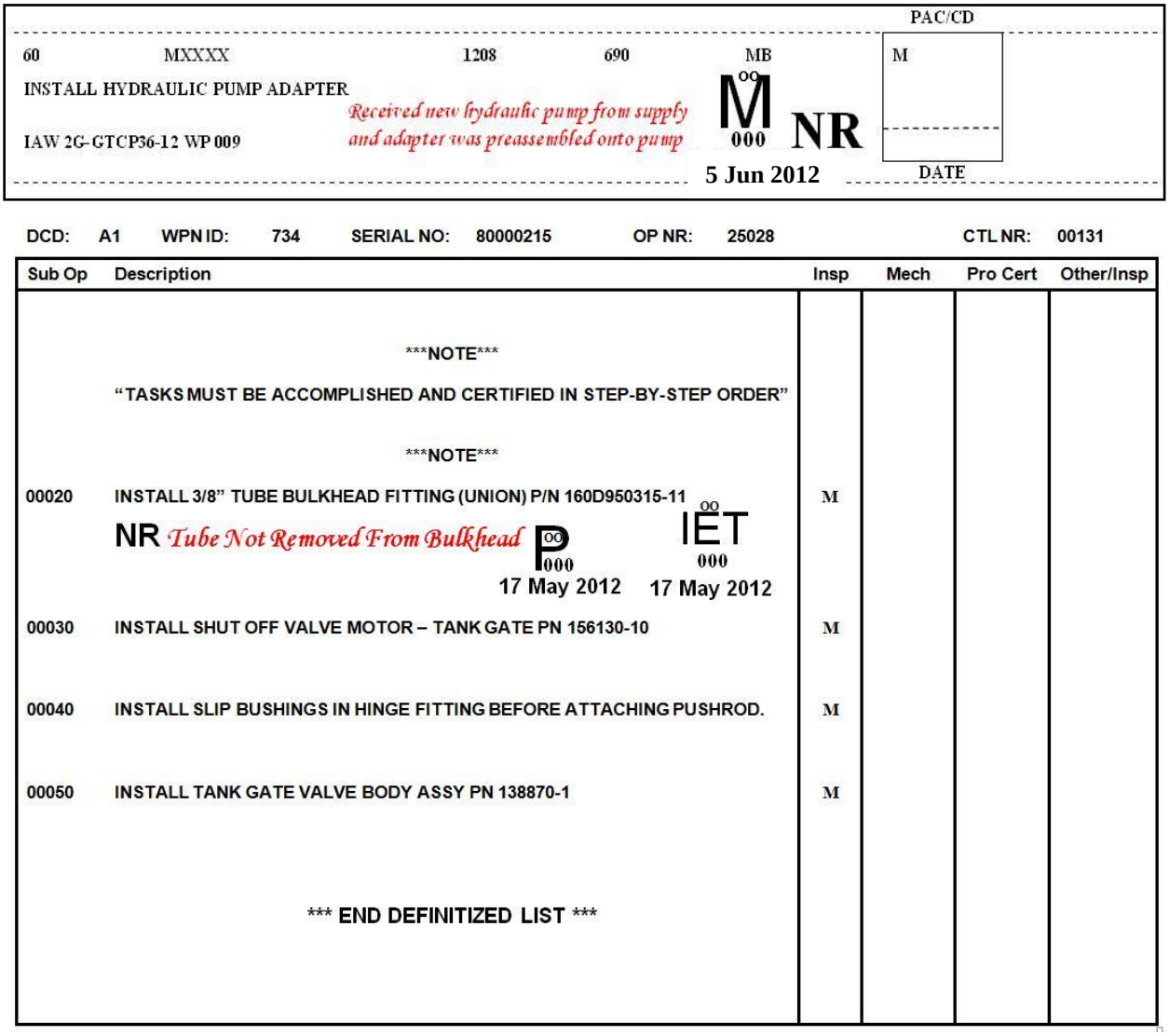
19.3.4.13.1. (Added) The review of multiple WCDs by the production supervisor and scheduler may be accomplished under one specific WCD. This specific card will, at a minimum, identify (1) a work category description, (2) the resource control center, (3) what's being reviewed with the statement, "All certification blocks have been properly stamped and dated". The "X" inspection/certification code will be used for this purpose.

19.3.5.1. (Added) All informational Notes entered within a WCD task description block shall be stamped and dated by the technician entering the informational Notes. This does not apply to entering of measurements and/or planned operations requesting inspection or functional testing documentation be entered within the task description block.

19.3.5.1.1. (Added) 309 AMARG technician will document time and close any "SAI" or "PCW" operation in workplace for the time required to validate. Area

19.3.5.1.2. (Added) 309 AMARG. Informational Notes required on the MAXIMO generated WCDs are indicated with "Notes on Back" in block 17. On the back of the page containing "Notes on Back" annotate the specific operation, the additional Notes, stamp and date. When a mechanic has completed a maintenance task on the WCD, block 18 will always require a stamp and date. When additional Notes for that task are required, the mechanic will use "Notes on Back" procedures and also stamp and date on the back page of the WCD.

Figure 19.14 (Added) Using NA, NR, PCW, or SAI.



PAC/CD

60 MXXXX 1208 690 MB M

INSTALL HYDRAULIC PUMP ADAPTER

Received new hydraulic pump from supply and adapter was preassembled onto pump

M 00 000 NR

IAW 2G-GTCP36-12 WP 009

5 Jun 2012 DATE

DCD: A1 WPN ID: 734 SERIAL NO: 80000215 OP NR: 25028 CTL NR: 00131

Sub Op	Description	Insp	Mech	Pro Cert	Other/Insp
	NOTE				
	"TASKS MUST BE ACCOMPLISHED AND CERTIFIED IN STEP-BY-STEP ORDER"				
	NOTE				
00020	INSTALL 3/8" TUBE BULKHEAD FITTING (UNION) P/N 160D950315-11	M			
	NR *Tube Not Removed From Bulkhead* P 00 000 17 May 2012 IET 00 000 17 May 2012				
00030	INSTALL SHUT OFF VALVE MOTOR – TANK GATE PN 156130-10	M			
00040	INSTALL SLIP BUSHINGS IN HINGE FITTING BEFORE ATTACHING PUSHROD.	M			
00050	INSTALL TANK GATE VALVE BODY ASSY PN 138870-1	M			
	*** END DEFINITIZED LIST ***				

19.3.5.3. (Added) AMARG will use the date format (YYYYMMDD) when stamping and dating the WCD.

19.3.5.6. (Added) AMXG: E&I technicians determine what unpredictable write-ups are required, consistent with work specification requirements and, as required, the E&I technician will complete an MWR worksheet identifying unpredictable defects for input into PDMSS. CMXG: E&I technicians will determine what tasks and or processes are required for back shop repair.

19.3.5.6.1 (Added) CMXG E&I technician identifies a task or process is not required, the E&I technician will follow the procedures contained in **paragraph 19.3.5.1.** of this chapter and properly document the WCD tasks or processes as NA, NR, PCW, or SAI with a stamped and dated informational Note.

19.3.5.9. (Added) When non AFMC personnel perform maintenance as specified on AFMC WCD's, a review of the individual's qualification/certification will be performed by the AFMC

production supervisor. This can be through training certificates, TBA, 623 or equivalent. Non AFMC personnel will document form 781A and attach to the WCD. Production supervisor will make a Note on the AFMC WCD stating "see attached 781A". Production supervisor will P stamp and date the Note only. Supervisor will also Note that a record review has been accomplished and the non AFMC personnel are qualified/certified to perform work. Block 36 and/or 37 will be left blank as the 781A is the audit trail.

19.3.5.10. (Added) Certifying WCD when no technicians are PAC certified. Technician training is accomplished while performing the actual tasks or processes. QA, Engineering and supervisor or supervisors' designee will oversee training until technicians are competent/certified in section III of the technicians PACSS record.

19.3.5.10.1. (Added) Uncertified technician will stamp the WCD operation outside the certification block to signify completion of tasks or processes.

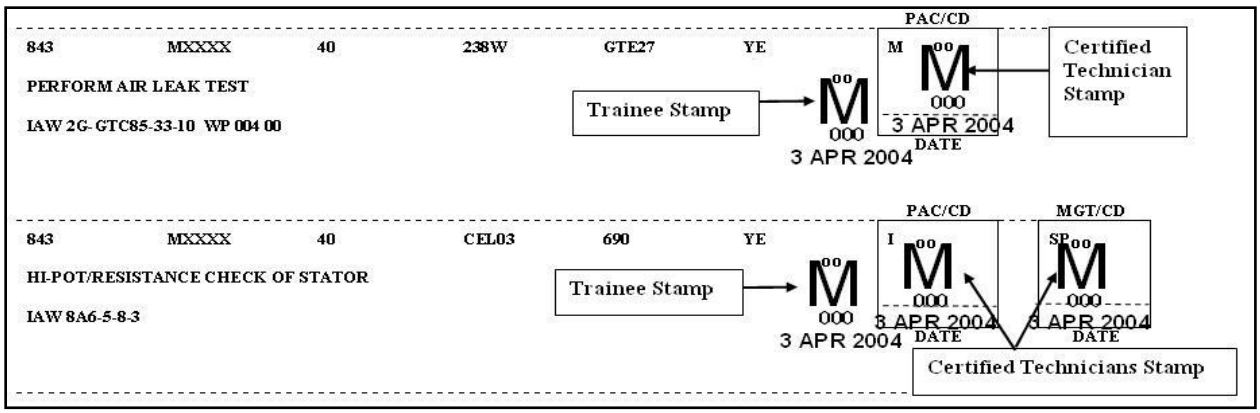
19.3.5.10.2. (Added) The following informational Note will be placed in the task description block by the supervisor. "See attached Certification Memorandum for Record (MFR)". The supervisor will P stamp and date this informational Note.

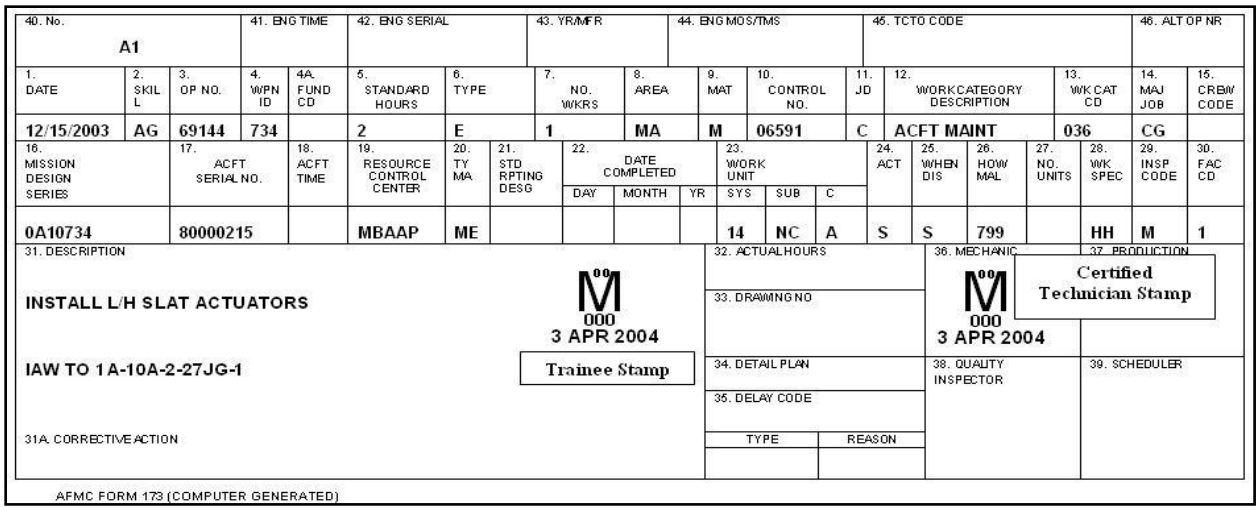
19.3.5.10.3. (Added) A Certification MFR will be developed stating tasks or processes the technicians was/were qualified and certified to perform and were directly overseen by a POC from QA, engineering, and the RCC supervisor or supervisor designee. The memorandum will include a certification date, technicians name, all pertinent WCD data i.e. control number, operation number, tasks or processes performed to include as applicable serial number, part number, NSN etc. This MFR shall contain the printed names of QA, Engineer, and supervisor or supervisor designee, and technicians. The MFR shall be signed by overseeing POCs Quality, Engineer and supervisor or supervisor designee and technicians. The completed MFR shall be placed in the technicians 971 file and a copy provided to all who sign the MFR.

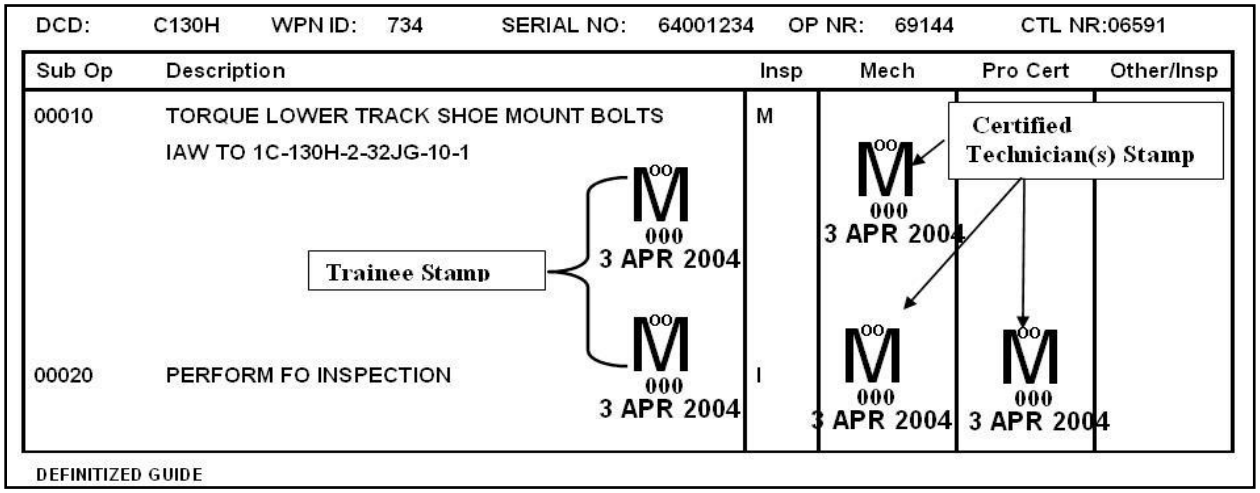
19.3.5.10.4. (Added) The supervisor shall enter in Section IV of the technician(s) PACSS record a dated statement identifying technicians were observed performing tasks or processes by QA and Engineering and the supervisor or supervisor designee and certified. The supervisor working with the PACSS manager shall ensure an auditable PAC task is developed for Section III of the PACSS record and certify the technician.

19.3.5.11. (Added) Trainee stamping of WCDs. Personnel not certified on the task or process being performed can accomplish the work if they are qualified to the extent necessary and are under the direct guidance of a PAC certified technician. A technician not yet certified on a task or process can stamp and date the WCD outside the certification block. At no time will a trainee stamp inside certification blocks unless PAC certified on that specific WCD task or process. A certified technician will stamp and date inside the applicable certification blocks. (See Figure 19.15.) for trainee stamping.

Figure 19.15. (Added) WCD Trainee Stamping







19.3.6.3. (Added) 309 AMARG route all WCDs regarding aircraft maintenance, to include copies of AFTO Form 781, to QPQL Aircraft Records to be kept in the hold back file IAW Chapter 20, paragraph 20.1., Aircraft and Other Assets Records Processing and Storage.

19.3.6.3.1. (Added) 309 AMARG receives over and above WCDs from planning and incorporates workload into project schedules.

19.3.6.3.2. (Added) 309 AMARG if back shop support is required at the aircraft, the project scheduler will generate a dispatch order and forward it to the back shop scheduler. If the asset is removed from the aircraft and routed for repair, the project scheduler will attach the WCD to the asset and forward to the back shop scheduler. When completed, the back shop scheduler will ensure the routed WCD is returned to the project scheduler.

19.4. (Added) OO-ALC Complex Process Orders (PO)

19.4.1. (Added) Process orders shall be written to prescribe detailed standard work instructions for production methods and shop practices. Process orders may supplement maintenance engineering standards, but will not be at variance with or change standards, parameters, tolerances, etc., within applicable maintenance engineering standards. Maintenance engineering standards include technical orders (TO), Air Force drawings, and Industry or Military specifications. This includes POs developed to supplement COTS manuals and Contractor Maintenance Manuals (CMM).

19.4.2. (Added) Process order preparation.

19.4.2.1. (Added) All POs shall be developed according to AFMC_SUP chapter 19 and Table A14.6. and the requirements of this supplement.

19.4.2.2. (Added) POs can be prepared, controlled, monitored, distributed and deleted by maintenance process engineers, facility engineers and system program office engineers.

19.4.2.3. (Added) If an organization desires to use another organizations developed PO the engineering organization over the requesting organization shall ensure the new production area can perform requirements of the PO by completing a val/ver IAW 19.4.2.10. and ensure all coordination requirements are complied with IAW AFI 21-101_AFMCSUP Table A14.6.

19.4.2.1.1. (Added) Process Order Development and Display System (PODDS).

19.4.2.1.2. (Added) All new POs shall be prepared, controlled, monitored, distributed and deleted utilizing PODDS.

19.4.2.1.3. (Added) POs in PODDS may contain electronic pictures, diagrams, video, tables or other forms of media that help explain correct processing methods. Any media used in PODDS shall be controlled as technical data.

19.4.2.1.4. (Added) All previously developed POs currently in sustainment shall be transitioned into PODDS within two years from the date of this supplement.

19.4.2.1.5. (Added) Any previously developed PO currently in sustainment having major changes to primary procedures, addition or deletion of procedures, the PO shall have a val/ver IAW 19.4.2.10. and will be placed into PODDS.

19.4.2.2. (Added) A PO not containing verbatim TO information, the mandatory review shall be accomplished before the end of the month in the month the review is due.

19.4.2.3 (Added) Any technical date changes including changes to COTS manuals, CMMs resulting in an engineering update to a developed PO shall require the PO to receive a val/ver IAW 19.4.2.10. and the PO shall be placed into PODDS.

19.4.2.6.1. (Added) Engineering red-line changes to POs. The responsible engineer may make changes or clarifications to an electronic PO and republish it after the initial full review has been

completed as long as the small changes are minor and not deemed critical. This is essentially an electronic "red-line" change to a PO.

19.4.2.6.1.1. (Added) Only the process engineer or his/her delegate has access to modify the PO in the PODDS publisher system.

19.4.2.6.1.2. (Added) Upon publishing, the process engineer will Note what changes were made when prompted by the PODDS system.

19.4.2.6.1.3. (Added) If small changes not deemed critical are made, the process engineer may publish without full signature review and the new PO will immediately be made available to the production shop floor via the PODDS reader. PODDS will assign a new revision number to the PO with each update, no matter how minor.

19.4.2.6.1.4. (Added) If a minor red-line change is made to a hard copy process order, the process engineer will make the change and legibly print their name, sign and date near the change using red ink. The same process engineer shall ensure the PO contained in PODDS is immediately updated within 2 working days with a new revision number.

19.4.2.10. (Added) Validation/Verification (val/ver) of new process orders. Once a draft process order has been written, process engineering will schedule a formal Process val/ver with production shop personnel and quality assurance. The draft process order must be printed out in hardcopy and the Note in red "Draft, for V/V" placed at the top of the document.

19.4.2.10.1. (Added) Mandatory attendance at all val/vers shall be production technicians, quality assurance, and the process engineer developing the PO. Other parties such as safety or planning will participate if requested by production, quality or process engineering. The val/ver will consist of 100% hands-on performance by production personnel required to use the PO in performance of the process or task.

19.4.2.10.2. (Added) Any deficiencies or other issues shall be Noted in red on the draft document.

19.4.2.10.3. (Added) Changes deemed minor by both production, quality and engineering may be made to the draft without the need for an additional val/ver. Major changes to procedures to the draft process order will require a re-val/ver.

19.4.2.10.4. (Added) At the completion of the val/ver, production, quality, and process engineer (and any other parties that assisted in the val/ver) will legibly print, sign and date the front page of the draft process order and process engineering will then submit the process order (with any changes made) for official review, coordination, and publication.

19.4.2.10.5. (Added) Process engineering will maintain a file of the draft process orders with val/ver signatures for a minimum of two years.

19.4.2.10.6. (Added) Val/ver's are not required for renewal or minor modification of existing process orders.

19.4.2.12. (Added) Process order deviation. An OO-ALC Worksheet, *Process Order Deviation Request (PODR),* is used at the shop level to grant authority to temporarily deviate from a process order.

19.4.2.12.1. (Added) Authority to deviate from any process order, a PODR shall be submitted to the responsible process engineer for that specific PO.

19.4.2.12.2. (Added) A PODR is not valid until signed and dated by the responsible process engineer and the process engineering manager.

19.4.2.12.3. (Added) The responsible process engineer or process engineering manager may rescind a PODR at any time prior to the expiration of the PODR.

19.4.2.12.4. (Added) A PODR shall not be used to request deviation from officially prescribed technical data, all technical data deviation requests shall be submitted using the AFMC Form 202 process and approved by the appropriate systems engineer.

19.4.2.12.5. (Added) A PODR may be filled out and submitted by anyone.

19.4.2.12.6. (Added) Requests for permanent process order change may also be made by checking the appropriate box at the bottom of the PODR.

19.4.2.12.7. (Added) After signature and approval, a copy of the PODR shall be provided to the affected production area, the Planner for the component to place in the planning jacket file for that workload, and a copy shall be kept in the process engineering office.

19.4.2.12.8. (Added) A PODR copy shall be made accessible to shop floor personnel until expiration or rescission, whichever is first.

19.4.2.12.9. (Added) The process engineering office shall maintain a file of all PODRs, the file shall consist of an active section and a historical section. Once PODRs become inactive, they will be placed in the historical section. The historical section shall be maintained indefinitely. The file of PODR's may be hard copy or electronic.

19.4.2.13. (Added) Inactive or rescinded process orders. When work/repair is required on a component having an inactive or rescinded process order identified on the WCD, the production shop shall contact process engineering for guidance and also notify the responsible planner.

19.4.2.13.1. (Added) The responsible process engineer for that PO may print an inactive or rescinded copy of a process order for temporary use on the shop floor.

19.4.2.13.2. (Added) The responsible process engineer will legibly print, sign, date, and provide phone number on the front page of the inactive or rescinded copy. This inactive or rescinded PO copy shall only be used for 30 calendar days from the date of responsible engineering signature on the front of the PO. If after 30 calendar days the PO still isn't activated the responsible engineer shall be contacted and the responsible process engineers manager shall than be required to legibly print name, sign, date, and provide phone number on front of PO.

19.5.1.1.1. (Added) The OO-ALC MXG (309 AMXG, 309 AMARG, 309 CMXG, 309 EMXG, 309 MXSG, 309 MMXG) are responsible for the issue, control and inventory of all maintenance stamps within their respective organizations. A primary and alternate stamp manager shall be assigned in writing by each organization. Oversight is provided by the OO-ALC Quality Assurance/Process Improvement Office.

19.5.1.1.1.1. (Added) The 309 MXSG PMEL shall be responsible for the issue and control of all K-stamps issued to personnel who repair, calibrate and certify test measurement and diagnostic equipment, IAW TO 00-20-14, Air Force Metrology and Calibration Program, and the PMEL Quality Manual or the contract Statement of Work. K-Stamps are not used on WCDs and are not considered maintenance stamps as defined in this instruction. All other maintenance stamps required by the PMEL shall be issued, controlled, and inventoried through the 309 MXSG.

Annual auditing of K stamps will be conducted by 309 MXSG PMEL with a copy to be forwarded to MXSG Stamp Manager.

19.5.1.1.1.2. (Added) Support Center Pacific, Kadena AB, Japan (525 EMXS) will maintain a supply of maintenance stamps, issued from 309 EMXG. The designated representative will issue and control all stamps in 525 EMXS.

19.5.1.1.1.2.1. (Added) 525 EMXS is responsible for issue and control of any maintenance (N) stamp issued to the 18th Equipment Maintenance Squadron, Kadena Air Base, Okinawa, Japan. This will facilitate the performance and documentation of NDI inspections in the absence of the assigned 525 EMXS NDI technician.

19.5.1.1.2. (Added) Requests for maintenance stamps shall be initiated by the employee's supervisor via e-mail or in writing to the organizational stamp manager.

19.5.1.1.2.1. (Added) Issue of maintenance stamps will only occur when the employee's PAC/Standard System record shows completion of applicable training as designated in section 14.54 of this instruction.

19.5.1.1.2.1.1. (Added) An "M", "P", or "Q" stamp will not be issued until the employee has completed all mandatory training.

19.5.1.1.2.1.2. (Added) 309 EMXG employees must be a minimum of a WG-05, or provide a copy of their certificate of completion for electronics technician's student program. This certificate will be maintained by the PAC stamp manager; a copy will be also be maintained by the shop supervisor.

Table 19.16. (Added) 309 AMXG Stamp Issue Prerequisite Training

Initial Requirement Training Courses
Work Control Documents
Tool Control and Accountability Program
Technical Data Use and Compliance (F-22 Exempt
Fire Safety and Prevention Training
FOD/DOP Awareness Training

Table 19.17. (Added) 309th EMXG Electronics Maintenance Group (309 EMXG) Stamp Issue Prerequisite Training

Initial Requirement Training Courses
Electro-Static Discharge Awareness
Work Control Documents
Tool Control and Accountability Program
Technical Data Use and Compliance
Aerospace Corrosion Prevention and Control
Fire Safety and Prevention Training
FOD/DOP Awareness Training

Table 19.18. (Added) CMXG Stamp Issue Prerequisite Training

Initial Requirement Training Courses
Lockout / Tagout Procedures
Work Control Documents
Tool Control and Accountability Program
Technical Data Use and Compliance
Aerospace Corrosion Prevention and Control
Fire Safety and Prevention Training
FOD/DOP Awareness Training

19.5.1.1.2.1.3. (Added) Organizations shall use the Hill AFB TSS, Stamp module to issue, record, track, control and identify maintenance stamps. This database shall include un-issued stamps.

19.5.1.1.2.1.4. (Added) Revocation of a maintenance stamp shall only occur at squadron or flight level within the respective organization. Outside agencies can only recommend a stamp be revoked. The maintenance stamp shall be returned to the organizational stamp manager.

19.5.1.1.2.1.5. (Added) Recall actions of maintenance stamps initiated by the organizational or OO-ALC stamp manager, shall be coordinated through the appropriate squadron/flight.

19.5.1.1.3. (Added) Requests for maintenance stamps must include: Employee name, office symbol, type of stamp, supervisor's name and phone number and date of request.

19.5.1.1.3.1. (Added) Issued stamps shall be accounted for on an AF Form 1297, (309 AMARG may use stamp request letter in place of AF Form 1297). Stamps shall be issued as two line items to include stamp and cap. Obsolete or previously used forms do not need to be re-accomplished. Documentation of un-issued stamps shall be maintained on the annual inventory summary and organizational database. Turned in maintenance stamps shall not be reissued to another individual for a minimum of 90 days from the date of turn in.

19.5.1.1.3.2. (Added): Maintenance stamp caps shall be marked with the stamp number of the issued stamp by the most suitable method (i.e. etching, lasered, or permanent marking pen) when issued. Caps shall be inspected by the employee and re-marked as needed.

19.5.1.1.3.3. (Added) Individuals retiring, separating or being reassigned to a position in a different organization, or to a position no longer requiring a stamp, shall turn in their assigned stamp to the organizational stamp manager.

19.5.1.1.3.4. (Added) Lost maintenance stamps or caps shall be reported and documented IAW lost item procedures in Chapter 10 of this instruction. Lost stamp or cap information, including the AFMC Form 310, control number, shall be maintained in organizational stamp databases for a minimum of 3 years. Once a stamp is reported lost, the stamp number shall not be reissued for 1 year from the date lost. A stamp reissue request from the assigned supervisor shall be required prior to another stamp being issued. When caps only are lost, a replacement cap will be issued without re-issue of a new maintenance stamp after compliance IAW all FOD procedures.

19.5.1.1.3.5. (Added) 309 AMARG a replacement stamp will be re-issued using the 'replacement tool authorization/option' of the AFMC Form 310. The employee will sign and date acceptance of the replacement on the AFMC Form 310, a copy will be maintained by the

stamp manager as the issuing document.

19.5.1.1.3.6. (Added) Annual maintenance stamp inventory documentation shall be kept on file by organizational stamp managers until replaced by the following year's inventory.

19.5.1.1.4. (Added) Organizations shall conduct an annual maintenance stamp inventory including un-issued stamps. A summary of the results shall be forwarded to OO-ALC Training Flight (OO-ALC/OBMT) upon completion.

19.5.1.1.4.1. (Added) An annual inventory summary shall include as a minimum, total number of stamps assigned by type with a status of active/in use, lost, destroyed, or un-issued. Stamps not reconciled with the inventory shall include a status, i.e., deployed active duty, TDY, illness. Non-reconciled stamp(s) shall be cleared from TSS Stamp Manager Open Audits module when the new completed audit has shown stamp(s) is/are in the same status from the previous annual audit.

19.5.1.1.4.2. (Added) Deficiencies discovered during the annual inventory shall be reconciled and updated with the TSS/PAC stamp database.

19.5.1.1.4.3. (Added) Once a new group annual audit has been launched, all prior open annual work center audits with non-reconciled stamps will be closed. Explanation should be added to the comments section of the non-reconciled stamp to Note carry over to next audit.

19.5.1.1.4.4. (Added) The following procedures shall be followed to accomplish annual maintenance stamp inventories:

19.5.1.1.4.4.1. (Added) Organizational stamp managers shall provide stamp inventory listings to all appropriate flights. These listings shall contain employees' names and maintenance stamp number(s).

19.5.1.1.4.4.2. (Added) The supervisors shall have the employees place their stamp impressions next to the stamp number on the stamp inventory listing. The supervisor shall inspect the stamp impression to ensure it is the correct number and is legible, and that the maintenance stamp cap is marked with the issued stamp number. Any discrepancies shall be Noted, the supervisor shall sign and date the completed stamp inventory listing and forward it to the organizational stamp manager.

19.5.1.1.4.4.3. (Added) Group/squadron commanders shall ensure all stamp inventory listings are returned. Organizational stamp managers shall ensure all entries are stamped, and each stamp inventory listing is signed by the responsible supervisor.

19.5.1.2. (Added) 309 MMXG geographically separated units (GSU) located at 309 MMXS/ MXNN Rivet MILE operations at Malmstrom AFB, MT; Minot AFB, ND; F.E. Warren AFB, WY, and Det. 41, Vandenberg AFB, CA will maintain a supply of maintenance stamps, issued from 309 MMXG. The designated representatives will issue, control, and inventory all stamps.

19.5.1.2.1. (Added) The OO-ALC stamp program authorizes thirteen different stamps for use by personnel in accomplishing their assigned functions. **Note:** There are stamps in the OO-ALC stamp program that are not "maintenance stamps" for the purpose of this instruction and will not be used to certify WCD tasks. Stamps are for the exclusive use of personnel to whom they are issued and shall not be used by any other individual for any reason. Stamps M, N, P, IET, C, MRT, and Q have mandatory issue and use requirements. Additional stamps issued are D, EI, INERT, K, T, U. It is not expected or required that organizations shall use or issue all fourteen

different types of stamps. An organization has the right under this supplement to issue only stamps in their assigned blocks.

19.5.1.2.2. (Added) OO-ALC stamp number block assignments are designated in Table 19.4.4.

Table 19.18. (Added) OO-ALC Stamp Number Block Assignments

ORG.	M	P	Q	IET	C	D	U	N	T	K	EI	MRT	INERT
AMXG	00041-02500	0001-0500	226-400	0001-0199	0001-0150	0001-0100	001-010	600-609			001-100	001-025	
AMARG	001-950	001-150	001-015	001-050	001-036			001-025					001-006
CMXG	70000-72500	5000-5500	501-551	200-299	600-725		700-799				600-775		
MXSG	04000-05000	0700-0800	800-900	0700-0800	0800-0900			001-100	5080-5100		776-800		
EMXG	90000-91050	4000-4200	1000-1100	0300-0399	0300-0400			891-900					
MXSG PMEL										151-300			
MMXG	03000-03999	2000-2200	100-150	400-499	500-599			501-510					

19.5.1.3. (Added) For 309 MMXG GSU employees not required to be in PAC, supervisors will certify that the required training has been completed and at least one task has been certified.

19.5.1.3.3. (Added) 309 AMARG P-stamp will not be used to certify completion of maintenance accomplished on a task or product.

19.5.1.3.3.1. (Added) 309 MMXG Temporary issuance and use of P-Stamps is authorized for non-production supervisors and their designated representatives when conducting a 100 percent review of each task on each work control document opened and in use. To certify the completion of the oversight , the non-production supervisor or their designated representative, will “P” stamp the top right hand corner of the AFMC Form 500. Stamps will be turned in to the group stamp manager when the 100 percent task review is completed.

19.5.1.3.3.2. (Added) P-Stamps may be issued to supervisors and/or designated alternate at the discretion of the group.

19.5.1.3.5. (Added) Issued to production schedulers who verify that WCDs have been completed and all time has been taken. The scheduler reviews, stamps and dates the completed WCDs to ensure all required certification blocks have been stamped and dated.

19.5.1.3.7. (Added) MRT and PAO are accomplished electronically and do not physically exist. Refer to paragraph 19.1.5.5.2.2. on MRT and PAO stamp requirements during a work emergency situation.

19.5.1.3.7.1. (Added) MRT stamps are issued to 309 AMXG forms and records personnel to deNote accomplishment of X-coded tasks on WCDs.

19.5.1.4. (Added) (E&I) Issued to evaluators and inspection personnel to authorize work for back-shops.

19.5.1.4.1. (Added) (D) Aircraft Examination & Inventory Stamp: Issued to inspectors who perform an incoming inspection on the various weapon systems after the aircraft has been prepped for depot maintenance.

19.5.1.4.2. (Added) (U) Delta Stamp. Issued to qualified maintenance personnel to:

19.4.1.4.2.1. (Added) Identify Air Force property on condition tags or labels if another type of maintenance stamp has not been issued. All other OO-ALC maintenance stamps may be used to stamp condition tags or labels.

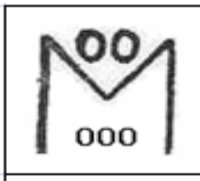
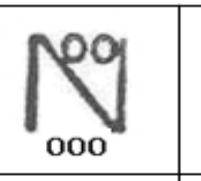
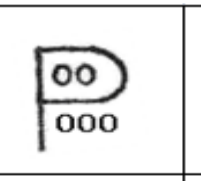
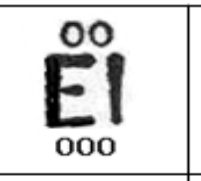
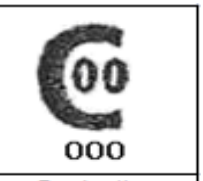
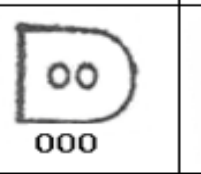
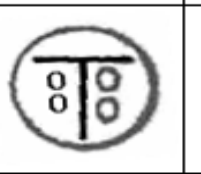
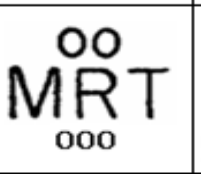
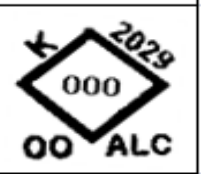
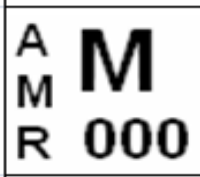
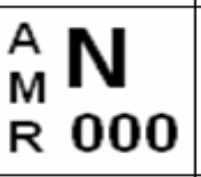
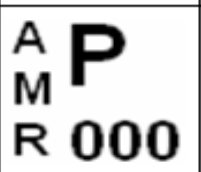
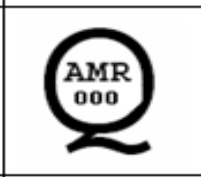
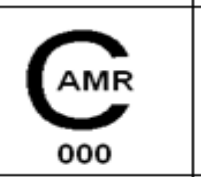
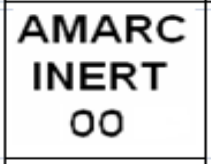
19.5.1.4.2.2. (Added) Identify work to be accomplished on components by certified mechanics other than E&I personnel.

19.5.1.4.3. (Added) 309 AMARG Inert stamp. Issued to qualified and certified egress/armament section personnel and used to certify inert explosive items. INERT stamps will not be used on WCDs.

19.5.1.4.4. (Added) 309 MXSG (T) Test Stamp. Issued to technicians in the 309th Maintenance Support Group (309 MXSG) who test wire-crimping tools for serviceability. T stamps will not be used on WCDs.

19.5.1.5. (Added) See Table 19.4.5. for samples of all OO-ALC maintenance stamps.

Table 19.19. (Added) OO-ALC Stamp Examples

					
Maintenance	Non-Destructive Inspection	Production Supervisor	Evaluation & Inspection	Quality Assurance	Production Control (Scheduler)
					
Industrial Engineering Technician (Planner)	Examination & Inventory	Tool Testing and Certification	Delta	Maintenance Review Team	PMEL Calibration (K-Stamp)
					
Maintenance (AMARG)	Non-Destructive Inspection (AMARG)	Production Supervisor (AMARG)	Quality Assurance (AMARG)	Production Control (AMARG)	Industrial Engineering Technician (AMARG)
					
INERT (AMARG)					

19.5.1.6. (Added) Authorized maintenance stamp users shall correct their stamping and dating errors by writing "VOID" in red across the error. The correct information will be entered and stamped/dated as close as possible to the correction. 309 AMARG stamp error correction procedures differ as follows:

19.5.1.6.1. (Added) 309 AMARG when a stamp is illegible, the operation must be re-certified as complete by using "Notes on Back" procedures.

19.5.1.6.2. (Added) 309 AMARG for stamps entered in error, the operation must be re-opened by using "Notes on Back" procedures. To complete an operation that was previously entered in error, do not re-stamp on the front of the WCD, write "Notes on Back" in block 17. On the back of the page, write the operation number, "operation complete", stamp and date.

19.5.2 (Added) 309 AMARG Stamp Program is the Responsibility of the 309 AMARG PAC manager.

19.5.2.1. (Added) OO-ALC stamp program manager is:

19.5.2.1.1. (Added) Appointed in writing by the OO-ALC/CC and acts as the OO-ALC office of primary responsibility (OPR) to oversee the maintenance stamp program.

19.5.2.1.2. (Added) Conducts a yearly review of organizational stamp programs.

19.5.2.1.3. (Added) Maintains copies of organizational stamp manager assignment letters.

19.5.2.1.4. (Added) Assigns blocks of maintenance stamp numbers to each organization. Organizations are required to notify the OO-ALC/OBMT of any changes, deletions, or additions to their blocks of assigned numbers.

19.5.2.2. (Added) Group or squadron commanders will:

19.5.2.2.1. (Added) Provide executive oversight and resources for their respective organizational stamp programs.

19.5.2.2.2. (Added) Appoint an organizational stamp manager, in writing, and provide a copy of the memorandum to the OO-ALC/OBMT OPR for maintenance stamp management.

19.5.2.2.3. (Added) Ensure all stamp inventory listings are returned by supervisors to organizational stamp managers.

19.5.2.3. (Added) Organizational stamp managers will:

19.5.2.3.1. (Added) Receive and process original issue and replacement stamp requests for all organizational personnel requiring stamps.

19.5.2.3.2. (Added) Procure and secure stamps to fill requests.

19.5.2.3.3. (Added) Maintain organizational information in the TSS stamp database.

19.5.2.3.4. (Added) Conduct an annual inventory of all stamps.

19.5.2.3.5. (Added) Assign stamps to qualified employees and record the required information in the PACS/TSS stamp database. The expeditionary maintenance personnel flight shall document the information in PACS/TSS and CAMS.

19.5.2.3.6. (Added) Ensure maintenance stamps caps are marked with the stamp number of the issued stamp at the time of issue.

19.5.2.3.7. (Added) Issue new stamps to employees whose stamps have become illegible and update the TSS stamp database and PAC.

19.5.2.3.8. (Added) Document stamps that are lost, destroyed or illegible in database, alert other group stamp managers within the complex of the loss. (Exception for 309 AMARG).

19.5.2.3.9. (Added) Ensure all returned stamp annual audit inventory listing entries are either stamped, or a disposition of the stamp is given and the listing is signed by the supervisor.

19.5.2.3.10. (Added) Maintain stamp annual audit inventory listings and the inventory summary on file until replaced with the following year’s inventory.

19.5.2.3.11. (Added) Sign and date a retiring, separating or transferring employee division/squadron out processing checklist as required, upon receipt of their assigned stamps.

19.5.2.4. (Added) First-line supervisors will:

19.5.2.4.1. (Added) Request appropriate stamps from the organizational stamp manager via e-mail or in writing when required training is completed.

19.5.2.4.2. (Added) Notify the organizational stamp manager, via e-mail or in writing, of any stamp revocations, including the employee's name, office symbol and stamp number, and return the revoked stamp to the organizational stamp manager.

19.5.2.4.3. (Added) Conduct a thorough search for any maintenance stamp or cap reported lost, and if not found, complete AFMC Form 310, , and notify the organizational stamp manager.

19.5.2.4.4. (Added) Notify and return a found stamp and/or cap to the respective organizational stamp manager when a stamp is found to close the AFMC Form 310 filed for the lost stamp and notify group/squadron tool manager.

19.5.2.4.5. (Added) Assist organizational stamp manager in conducting an annual inventory of all stamps.

19.5.2.4.6. (Added) Ensure maintenance stamp caps are marked with the stamp number of the stamp issued during the formal stamp audit.

19.5.2.4.7. (Added) Direct employees to immediately return illegible stamps to the organizational stamp manager for replacement and request replacement stamps via e-mail or in writing.

19.5.2.5. (Added) Employees will:

19.5.2.5.1. (Added) Pick up assigned stamps from the organizational stamp manager.

19.5.2.5.2. (Added) Safeguard stamps against unauthorized use or loss.

19.5.2.5.3. (Added) Report illegible stamps to their first-line supervisor.

19.5.2.5.4. (Added) Return stamp to the organizational stamp manager when transferring from a position requiring a stamp, separating, retiring or transferring from their current organization.

19.5.2.5.5. (Added) Annually provide a stamp impression and examine it with the supervisor for inventory and legibility purposes.

19.5.2.5.6. (Added) Conduct a thorough search and notify the first-level supervisor if stamp or cap becomes lost.

19.5.2.5.7. (Added) Maintain legible stamp number on maintenance stamp caps with the number of the stamp issued.

19.5.2.5.8. (Added) Do not modify maintenance stamp from its original issued construction.

20.1. (Added) For 309 AMARG, and the 571 AMXS Operating Location (OL) at Randolph AFB TX, the use of the legacy systems called out in this document do not apply. AMARG will continue to use the commercial-off-the-shelf products and the OL-Randolph will use the Standard Base Supply System (SBSS). References to Defense Logistics Agency (DLA) do not apply to AMARG, the OL-Randolph and the Support Center Pacific, Kadena AB Japan.

20.2. (Added) Refer to chapter 8 for Quality Assurance

20.6.1. (Added) Production Support refers to the units in the Production Support Flight that support the performance of Depot Maintenance (DM) (e.g., OO-ALC Process Engineer, planning, scheduling etc.).

20.7 (Added) **Note:** Depot Forecasting Specialist (DFS) and Process Engineer will support the DM structure.

20.7.1.1. (Added) Activities will also include participating in the Aircraft and Missile Requirements (AMR) Logistics Requirements Determination Process (LRDP) process.

20.7.1.2. (Added) Assist DM with managing parts removed to Facilitate Other Maintenance (FOM).

20.8.9. (Added) The Production Support Flight Chief will work with the Process Engineer to manage the planning, scheduling and material activities to support execution as required.

20.8.11.1.2. (Added) Planner/Industrial Engineering Technician and Process Engineer.

20.8.11.1.5. (Added) Management Analyst. Responsible for advising the Production Support Flight Chief and Process Engineer of changes in requirements; perform studies to review and evaluate various program operations and processes within the organization structure; identify areas for improvement; is knowledgeable of the repair process and the maintenance suite of systems; prepare charts & data for meetings as required.

20.9.1.2 (Added) There will be one primary OO-ALC Base Engine Manager (BEM) located at Hill Air Force Base (HAFB) for both owning stock record account number Stock Record Account Number (SRAN) managed at/by HAFB, to include 571 AMXS, operating location OL-Randolph. There will also be one alternate identified for each SRAN. HAFB SRAN designator is FJ2029 and the OL designator is FJ2840. AMARG will have one primary and one alternate for FJ2373.

20.9.3.2. (Added) ENGR and ES will collaborate with the planner and process engineer.

20.11.2.3. (Added) Likewise, D035K, EPS/G402A, ITS/G337 and/or Impressa will use the same document number to account for repairables.

20.11.2.4. (Added) The quantity per transaction (D7M) will always be one each to facilitate end item tracking. Workloads inducted with a job designator of L are exempt from the one per induction rule.

20.11.2.6. (Added) The end item document number is assigned by D035K and can be found on the WCD produced by ITS/G337 or Impresa.

20.11.2.9. (Added) See AFMCI 21-130 for more information on Bench Stock.

20.11.2.10. (Added) When traditional sources fail to provide required parts by the required delivery date, maintenance or DLA may opt to use other sources for parts support when approved by the system engineer.

20.11.2.12. (Added) Parts cataloged with a national stock number (NSN) can be locally manufactured when the designated source of supply cannot meet the required delivery date. Coordinate the local manufacture request with the retail supply activity (DLA).

20.11.2.15.6. (Added) End item Turn in Process. If backorders exist against an end item being turned in, D035K will generate an AK exception. Make sure the backorders are file maintained to another end item or request cancellation of the backorder if there is no current requirement.

20.18.5.1. (Added) AFGLSC can recommend changes to the Max Item settings. The Scheduler, with the approval from the Weapon System Scheduling Chief (WSSC)/EPSC, has the final authority and is ultimately responsible for induction into maintenance.

20.19.1. (Added) The Exchangeable meeting is used to ensure the depot repair process is on track, seek methods of improvement and apply the necessary resources; to include all Production Support Personnel listed in **paragraph 20.19.4.** including the process engineer.

20.19.3. (Added) The Squadron Chief will chair the informal Exchangeable meeting. Minutes or records are requires IAW 309MXWMAN 63-501. Constraints that cannot be resolved at the informal Exchangeable meeting will be addressed at the formal monthly Exchangeable meeting with the MXG CC/Director.

20.19.4. (Added) The mandatory monthly forum will include all individuals who resolve problems within the depot repair process, including the process engineer.

20.29.1. (Added) The P&A Office provides the Production Support Flight Chief with staff support functions, to include special projects and program management, quality control, training and process engineer responsibilities.

20.29.2. (Added) The Planner will be involved with the System Program Office (SPO)/SPM, maintenance work loaders, process engineers, financial managers (financial analysis), backshop, contracting, engineering, and supply organizations to ensure complete visibility of present and future aircraft repair PDM Modification and Unprogrammed Depot Level Maintenance (UDLM) and missile repair requirements.

20.30.1. (Added) The process engineer is required to attend the tail team meeting.

20.30.1.5. (Added) Manage and issue WCDs that are vetted through the Configuration Management Board (CMB) to the Production Supervisor for distribution to mechanics.

20.30.1.8. (Added) Chair the Tail Team/Production Focus Team (PFT) (includes the First Line Supervisor, Production Support Team (PST), and as needed, the Planner and process engineer) meeting to perform a 10 day –forward look of operations IAW with the critical path schedule.

20.30.2.4. (Added) Assist DM with managing and tracking FOM.

20.31.1.4. (Added) DM is responsible for accomplishing supportability actions on non-parts supportability elements. Provides detailed status on all scheduled maintenance tasks, provide root cause analysis (RCA) on those items coded red or yellow based on agreed business rules. Executes the non-parts supportability checklist (Appendix).

20.39.14. (Added) Coordinate with the appropriate process engineer as required.

20.39.21. (Added) Coordinate with the appropriate process engineer as required.

20.40.2. (Added) The planner will coordinate with the Process Engineer and the CMB to develop the Master WCD in accordance with governing instructions.

20.43.4.1. (Added) The planner will collaborate with DLA and AFGLSC on material supportability.

20.46.2. (Added) The aircraft/missile mechanic is responsible for attaching proper documentation to the items removed for Facilitate Other Maintenance (FOM) and move the

item into the FOM storage area. The first line supervisor is responsible for ensuring all items removed by the mechanics are identified.

20.46.6.1. (Added) Any material stored within the Tail Number Bin (TNB)/Serial Number Bin (SNB) will be delivered by the Production Support Technician (PST)/Production Support Scheduler (PSS) to the aircraft when required. The mechanic will input the removal information (signature/employee number and date) on the manual inventory sheet. (see AFMCI 21-130 for TNB procedures).

20.46.7. (Added) Work residue, shop stock and operating stock will be maintained IAW AFMCI 21-130.

21.3. (Added) Engine Manager duties and responsibilities are outlined in OO-ALCI 23-112, *Engine Management,* and AFI 20-115, *Propulsion Management for Aerial Vehicles.*

21.4. (Added) Consolidated Munitions Control Center duties and responsibilities are outlined in AFI 21-200, *Munitions and Missile Maintenance Management.*

22. Depot Engineering Roles and Responsibilities

22.1. Background Information. Depot operations require engineering oversight to provide technical support and ensure mission success through proper planning, design, implementation, and execution of the processes necessary to meet clearly defined depot customer requirements. This also includes the engineering responsibility for process control through surveillance and measurement to provide for repeatability and set the stage for process improvements. Depot engineering requires a broad range of science and engineering disciplines including, but not limited to aerospace engineers, mechanical engineers, chemical engineers, electrical engineers, computer scientists, materials engineers, physicists, chemists, etc. The diversity and complexity of the industrial processes the depot engineer is responsible for drives the need for a diverse and highly skilled technical workforce. The depot engineering function provides technical oversight to all stages of the depot operations.

22.1.1. Requirements. As new workload materializes and existing workloads change, depot engineering must be involved from the very beginning to include organic "repair" determinations primarily through the source of repair process (SORAP) and is defined as having the primary responsibility to ensure technical requirements are documented, understood and achievable. Depot engineering is responsible for ensuring sufficient technical data is available, establishing relationship with customer's engineering authority and developing a proper understanding of technical risks associated with the workload.

22.1.2. Process. Depot engineering is responsible for planning and developing all technical processes required to meet both customer workload requirements and technical requirements for a specific workload or for a series of similar workloads. These processes include engineering processes, industrial processes, supporting technical processes, including equipment, facilities, lab services, Non Destructive Inspection (NDI), Configuration Management (CM), process control, surveillance, etc. This responsibility requires identification of resources and infrastructure (e.g., facilities, equipment and instruments/tools). Once established depot engineering has the responsibility to baseline the process and control change through robust configuration management and data management procedures. Depot engineering has the responsibility that all developed processes must be verified and validated against the technical requirement.

22.2. Engineering Management Functions

22.2.1. Technical Director (TD)

22.2.1.1. The Technical Director's mission is to oversee engineering activities within the Complex; provide timely & accurate intellectual property reports; optimize S&E sizing; organization benchmarking with industry and other ALCs; assure processes and facilities meet production requirements; and establish/infuse robust technical requirements/ insertion processes including business development, equipment and facility planning. In addition, the TD provides science and engineering personnel management for Scientists, Engineers, Engineering Technicians and IETs, through ensuring career paths, serving as Complex functional guardian, developing qualification standards, developing and overseeing implementation of training plans.

22.2.1.2. Responsible for the overall Operational Safety, Suitability and Effectiveness (OSS&E) of the processes and environments of the repair/overhaul activities performed in the Maintenance Complex. Responsible for maintaining/controlling configuration management of weapons and sub-components of weapons while in the depot process.

22.2.1.3. Serves as the senior engineer and technical authority for the Air Logistics Complex providing expertise on technical aspects supporting the complex's operation & processes; has various levels of OSS&E responsibility.

22.2.2. Senior System Engineer

22.2.2.1. Serves as Chief, Transformation and Technical Insertion Office.

22.2.2.1.1. Program manager and technical expert for the Complex in development of transformation and technical insertion efforts to improve business performance (cost, schedule, quality) across the organization.

22.2.2.1.2. Represents transformation and technical insertion interests for the organization, including AFMC directed instructions associated with technical information (TI) throughout the installation and functional area organizations.

22.2.2.2. Serves as organization Senior Systems Engineer

22.2.2.2.1. Complex-level oversight of Systems Engineering efforts across the organization.

22.2.2.2.2. Ensures consistent and correct application of OSS&E assurance measures across the Groups in support of the System Program Manager and Chief Engineer for the serviced weapon systems.

22.2.2.2.3. Maintains system baselines through processes, facilities and professionalism of personnel.

22.2.2.3. Oversees the professional development of S&E resources across the organization.

22.2.2.3.1. Ensures Acquisition Professional Development Program (APDP) oversight and coordination with installation Senior Functional.

22.2.2.4. Oversees the S&E hiring practices and reviews selection processes to select the right people for the positions across the organization.

22.2.3. Group Senior Engineer

22.2.3.1. General overview of responsibilities. The group senior engineer (GSE) and all associated depot engineers/depot technicians will provide technical guidance to the production team to ensure appropriate consideration is given to governing Technical Data Packages, TOs, TCTOs, drawings, process Orders, WCDs, etc. Here in after referred to collectively as Technical Information (TI). Depot engineering will work closely with the Industrial Engineering Technician (IET) and maintenance personnel to ensure TI appropriately addresses methods congruent with the intent of published technical information. Depot engineers will identify and manage risk to people, facilities, material/equipment, and systems. Depot engineers will coordinate with safety, bioenvironmental engineering, base fire department, and the appropriate engineering authority, as required.

22.2.3.2. Ensures that end item test equipment meets TI test requirements, is adequately acceptance tested, has a well established functional and physical baselines, maintains CM over the test equipment. Ensures that test equipment is adequately base-lined and that proper change control is maintained.

22.2.3.3. The Group Senior Engineer or delegated depot process engineer(s), will assist in conducting a root-cause analysis to clearly identify the problem, the causes, and possible corrective actions addressing defects in form, fit, function and interface (F3I); materials; operational safety, suitability, and effectiveness; etc. A systems engineering approach will be used to ensure disciplined engineering analysis to avoid unanticipated impacts to adjacent systems as a result of repairs to the identified problem area. Utilize the corrective action request (CAR) process as outlined in 309MXWMAN63-501, *Aerospace Maintenance Quality System*.

22.2.3.4. The Group Senior Engineer or delegated depot engineering subject matter expert (SME) will ensure robust configuration management of any repairs that impact the product/system baseline to include technical data management of updates to the TI.

22.2.3.5. The Group Senior Engineer or delegated depot engineering SME will coordinate with the appropriate software experts (e.g., 309 SMXG) as applicable, when root-cause analysis identifies potential problems originating from software defects or malfunctions that potentially impact systems or interfaces.

22.2.3.6. The Group Senior Engineer or delegated depot engineering SME will coordinate with the system chief engineer on all findings potentially affecting F3I, impoundment repair activities outside TO tolerances, product baseline changes, etc. The depot engineer will also coordinate with the Chief Engineer relative to potential impacts to functional integrity and quality standards of the product/system.

22.2.3.7. The Group Senior Engineer or delegated depot engineering SME will provide guidance to the production team with respect to data gaps as identified in any TI and the possible need of a baseline compliance improvement event (BCIE) or other method to clarify repair procedures. Any changes to maintenance processes, procedures, tools, etc. will be documented in writing using the appropriate methods to ensure configuration management (CM) is maintained.

22.2.3.8. Group Senior Engineers or delegated depot engineering will provide guidance to and coordinate/participate with the production team for appropriate test and evaluation of maintenance and repair activities and will coordinate with the Test Authority as appropriate. Ensure thorough documentation of test plans, data generation and analysis, and results are maintained in accordance with local procedures.

22.2.3.9. Group Senior Engineers or depot process engineers may be designated as the impoundment official as directed by the investigating official.

22.2.3.10. Group Senior Engineers shall coordinate on all workload approval, new business, SORAPs, WADS, IA's, PPT and Pre Production Planning Team (PPPT)s.

22.2.3.11. Group Senior Engineers or delegated depot process engineers shall coordinate on all outsourced work plans to ensure adequate verification is performed.

22.2.3.12. Group Senior Engineers shall maintain a list of all critical industrial processes executed in their respective groups.

22.2.3.13. Group Senior Engineers or delegated depot engineers will be the final reviewer and the signature release authority on all process orders (POs) prior to distribution to ensure all aspects of technical data have been met.

22.2.4. Squadron Engineering Chief. Support the Complex and Group engineering goals, objectives and GSE responsibilities, while managing the workload within the resources given and by performing all required supervisory functions.

22.3. Group Engineering Functions

22.3.1. Depot Process Engineer/Depot Process Engineering Technician. The general description of the role and responsibility of the depot process engineer/depot process engineering technician is to ensure the OSS&E of customer assets in our possession is maintained. The depot process engineer/depot process engineering technician is the technical authority by which the industrial process is developed, validated, and maintained. It is the responsibility of the depot process engineer/depot process engineering technician to ensure production processes are designed to meet all customer requirements and to monitor the industrial process. Deviations to the industrial process must be approved by the depot process engineer/depot process engineering technician prior to taking effect. The depot process engineer/depot process engineering technician has both the responsibility and the authority to stand down an industrial process for an out of tolerance process, safety concern, violations of technical data or other condition that could result in quality deficiencies. Once stood down, the depot process engineer/depot process engineering technician is the technical authority to re-instate the use of the industrial process by production.

22.3.1.1. Participate in Quality Deficiency Report investigations with a focus of mistake proofing the industrial process to prevent a reoccurrence of the quality defect.

22.3.1.2. Participate in continuous process improvement (CPI) events and approve recommendations and any industrial process alterations prior to implementation.

22.3.1.3. Ensure the creation, implementation and updating of process orders (POs) to better define the overhaul processes within production shops, while maintaining CM.

22.3.1.4. Ensures proper design, creation, implementation and updating of locally manufactured tools, shop aides and fixtures within production shops while maintaining good CM practices. The depot process engineer/depot process engineering technician is the technical authority by which all locally manufactured tools are approved and released to production for use in the industrial complex.

22.3.1.5. Provides technical expertise between maintenance technicians, equipment specialists and engineering authority during the AFMC Form 202/AFTO Form 252 process.

22.3.1.6. Coordinate on all AFMC Form 202s and AFTO Form 22s prior to submission to SPO.

22.3.1.7. Conduct and submit risk assessments for out of tolerance/non-conformance (OOT/NC) notifications following the established process and ensure coordination/involvement of production and quality. Submit, for approval, the RA report to your respective Group Senior Engineer.

22.3.1.8. Provides oversight and expertise for equipment procurement and associated logistics for the capital purchase program for their respective group.

22.3.1.8.1. Ensure that processes & equipment meet all customer defined technical requirements and current configurations.

22.3.1.8.2. Develop & manage processes not governed by the TO (e.g., Process Orders).

22.3.1.8.3. Ensures a correlation of TO requirements to contract requirements is established for the equipment being procured to maintain customer's CM.

22.3.1.8.4. Ensure processes, equipment, & facilities do not endanger worker safety or the environment.

22.3.1.8.5. Ensures coordination of equipment replacement or modifications with production stakeholders.

22.3.1.8.6. Creates reviews and approves technical requirements for equipment modifications, upgrades and/or replacement.

22.3.1.9. Oversees equipment contracting efforts (e.g., SOW, Performance Based Work Statement (PWS), PD, J&A, Sole Source Letter, Formal Quote).

22.3.1.9.1. Performs the technical evaluations of proposals and coordinates with contracting officers.

22.3.1.9.2. Provides inputs on equipment replacement through the Capital Purchase Program as required.

22.3.1.10. Provides analysis and timely technical guidance for assigned ideas in the Air Force IDEA program evaluations.

22.3.1.11. Assists production squadrons, as required, with safety as related to repair processes and equipment and participates in mishap and safety related issues.

22.3.1.12. Maintains/implements configuration management procedures for equipment, processes, facilities, etc. in accordance with OO-ALC policy and procedures (ref. 309MXWMAN63-501, *Aerospace Maintenance Quality Systems*).

22.3.1.12.1. Responsible for correcting process, equipment, & identifying facility deficiencies and coordinate facility needs with maintenance support group.

22.3.1.12.2. Responsible for approving process deficiency corrective actions requests and preventative action requests for the area supporting.

22.3.1.12.3. Perform a system safety review of all projects prior to execution/implementation.

22.3.1.12.3.1. As required, perform root cause analyses, fault tree analyses and failure modes effects analyses (FMEA). Formal training is required in this area. **Note:** System Safety is not the same as ground safety and is not duplicative to the SE function.

22.3.1.12.3.2. Ensure that new workload activations, SORAPs, bidding, PPPTs and PPTs are supported and coordinated with Group senior Engineering.

22.3.1.13. Locally Manufactured Tool (LMT) Managers, as assigned, will design, document, and manage Group locally manufactured tools and fixtures.

22.3.2. Depot Process Quality Engineer

22.3.2.1. Develop and oversee a Quality Control Program that is focused on end-item quality (zero defects). This function is a requirement on all critical processes for depot process quality engineers and SMEs (engineers and technicians) assigned to group ENs.

22.3.2.2. Depot process quality engineers require an Accreditation Board for Engineering and Technology (ABET) engineering degree in an 8XX series with formal training required.

22.3.2.3. Performs process surveillance and process control to include data extracts and maintains test and process data for traceability of OSS&E and CM.

22.3.2.4. Performs data trending and analysis as needed.

22.3.2.5. Initiates and participates in BCIE and root cause analysis (RCA) efforts.

22.3.2.6. Gives advanced warning of potential quality problems and works with depot process engineers to submit preventative action plans. Tracks preventative action plan progress when assigned and ensures incorporation of process improvements.

22.3.3. Depot Facilities Engineer/Depot Facilities Technician

22.3.3.1. Real property project design, development, and management to include facility repairs, alterations, and new construction (minor and Military).

22.3.3.2. Serves as the interface to base civil engineering.

22.3.3.3. Supports the tracking and reporting of maintenance and repair (M&R) budgets.

22.3.3.4. Responsible for correcting facility deficiencies related to risk assessment codes, fire safety deficiencies (FSD), and uniform building code requirements.

22.3.3.5. Supports the PDM functions as assigned and ensures AFEMS is updated and properly documented.

22.3.3.6. Develops and maintains group long range facility plans.

22.3.3.7. Provides project updates in the appropriate project tracking database as required.

22.3.3.8 Provides periodic projects status reports to the supported production group management as request/required.

22.3.3.9. Prioritizes and executes facility project requirements in coordination with supported production group needs and budgetary constraints.

22.4. Complex and Group Support Functions

22.4.1. Configuration Management Specialists

22.4.1.1. The configuration management administrator will support the CMB functions and chairman, to which they are assigned, in receiving, reviewing, completing, distributing, compiling, coordinating and storing all documentation associated with configurable item packages which are submitted to their respective CMBs.

22.4.1.2. Develops and maintains their respective charter and CM plan.

22.4.1.3. Facilitates CMB meetings and records, distributes and stores CMB minutes.

22.4. 1.4. Develops Group CM processes and maintains surveillance of group CM efforts.

22.4.1.5. Periodically, over the year, audits those configured items in the CMB's repository for currency of configuration. Where quantities are prohibitive, sampling over a multi-year period can be used, when necessary and approved by the CMB chairperson.

22.4.1.6. Report all non-conformances with the current authorized configuration as found to the appropriate CMB Chairman for action.

22.4.1.7. Serves as the CM SME for their respective organization and as such, is current on all applicable Air Force directives and guidance.

22.4.1.8. Maintains a high level of proficiency in configuration management to include industry training and certification, defense acquisition university level certification in CM.

22.4.1.9. Advises leadership on all CM issues and serves as CM liaison to the Complex.

22.4.2. Transformation Specialists

22.4.2.1. The role of a transformation specialist in production is generally more diverse and less specialized than skills in traditional roles. Knowledge across multiple disciplines provides greater opportunity to leverage Continuous Process Improvement Events (CPI) to achieve the best result. This paragraph helps identify those roles including cooperative efforts with industrial engineering technicians, material management specialists and depot process engineers in respective organizations. Benchmarking with industry and other ALCs is encouraged to avoid expenditure of resources for projects that have already been completed. To ensure this, transformation specialists will regularly check the CPI-MT database to assess ongoing/completed projects that may have applicability to current efforts. In all cases, transformation specialists will ensure that CPI events adhere to Air Force policy and technical data, as well as all occupational safety and health directives. Where transformation specialists are unsure of these requirements, they must ensure that representatives from quality, safety, and bioenvironmental engineering (not all inclusive) are contacted and where necessary, a part of the project team.

22.4.2.2. Facilitate CPI events and review all recommendations prior to implementation for compliance with customer technical requirements, employee safety and part integrity.

22.4.2.3. Utilize the guidance contained in AFMCI90-104, *Implementing AFSO21 Initiatives*, and the AF Smart Operations for the 21st Century (AFSO21) Playbook in each CPI event.

22.4.2.4. Maintain a current A3, chart on each active CPI event IAW AFMCI90-104.

22.4.2.5. Provide facilitation support and guidance to group depot process engineers and industrial engineering technicians working CPI events.

22.4.2.6. Utilize group quality, cost, and delivery (QCD) data to determine CPI opportunities and prioritize using rack and stack method in OO-ALC Complex level meetings with group leadership.

22.4.2.7. Will actively pursue AFSO21 Greenbelt/Black Belt certification IAW with AFMCI90-104.

22.4.3. AS9100/9110 Quality Management System Specialists

22.4.3.1. Quality Management System Specialists (QMSSs) are key to the overall performance of the management system for the organization. Their primary role is to interpret international and national standards for the organization and assist top management, process owners, implementers, and improvement facilitators in their understanding of the systems and how their decisions impact the QMS itself and its capability.

22.4.3.2. Maintain three primary roles with various responsibilities to include 1) auditor, 2) consultant or facilitator, and 3) trainer.

22.4.3.2.1. In the role of auditor, perform the responsibilities to plan, schedule, prepare, and complete internal audits for the quality management system and its processes.

22.4.3.2.2. Maintain current auditor training and auditor proficiency to conduct audits.

22.4.3.2.3. Identify any weaknesses and request formal corrective actions.

22.4.3.2.4. Verify the correction actions taken are complete and effective against the baseline condition.

22.4.3.2.5. In the role as consultant, assist in the implementation and/or improvement of quality management system processes. Interpret the standards for leaders and assist in helping leaders and the organization utilize the system to improve, while increasing customer satisfaction and achieving leadership goals and objectives. Provide solution options to the area being supported.

22.4.3.2.6. In the role as trainer, assist in the awareness and understanding of quality management systems requirements and the principles that drive the systems to improve. Provide specific quality management systems training or awareness briefings to leadership, implementers, and process owners as required.

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Abbreviations, Acronyms

ABW – Air Base Wing

AF - Air Force

AFI - Air Force Instruction

AFGLSC - Air Force Global Strike Command

AFMC - Air Force Materiel Command

AFMCSUP - Air Force Materiel Command Supplement

AFOSH - Air Force Occupational & Safety

ALS - Aircraft Logistics Specialists

APU - Auxiliary Power Unit

AWP - Awaiting Parts

BCIE - Baseline Compliance Improvement Event

CAMS - Core Automated Maintenance System

CC - Commander

CLS - Contractor Logistics Support

CM - Configuration Management

CMB - Configuration Management Board

CMM - Commercial Maintenance Manual

COTS - Commercial off the Shelf

CPI - Continuous Process Improvement

CRL - Custody Receipt Listing

CTK - Consolidated Tool Kit

CWI - Contractor Working Instruction

DCMA - Defense Contract Management Agency

DEMIL - Demilitarization

DFT - Depot Field Team

DIPE - Depot Industrial Plant Equipment

DLA - Defense Logistics Agency

DM - Depot Maintenance

DOD - Department of Defense

DOP - Dropped Object Program

DR - Deficiency Report

DT&S - Dimensions, Tolerances and Specifications

DTK - Dispatchable Tool Kit

EA - Engineering Authority

E&I - Evaluations and Inspection

EFEMS - Electronic Facility Equipment Management System

ETIMS - Enhanced Technical Information Management System

EN - Engineering Office

ESD - Electrostatic Discharge

ETR - Electronic Training Record

FAI - Full Article Inspection

FEMs - Facility and Equipment Maintenance System

FO - Foreign Object

FOD - Foreign Object Damage

FOUO – For Official Use Only

FOM - Facilitate of Maintenance

FP - Focal Point

GOCO TODO - Government Owned Contractor Operated Technical Order Distribution Office

GSE - Group Senior Engineer

GSU - Geographically Separated Unit

HILLAFB - Hill Air Force Base

IAW - In accordance with

IET - Industrial Engineering Technician

ID - Identification

IMDB - Integrated Missile Database

IMIS - Integrated Maintenance Information System

ITK - Individual Tool Kit

JON - Job Order Number

LEP - List of Effected Pages

LM/MT - Locally Manufactured/Modified Tool

MDS - Model Design Series

MEI - Major End Item

MGT/CD - Management Code

MISTR - Management Items Subject to Repair

MMTRS - Missile Motor Tracking and Reporting System

MOC - Maintenance Operations Center

MRT - Maintenance Review Team

MWR - Maintenance Work Request

MXG - Maintenance Group

MXW - Maintenance Wing

NAVAIR - Naval Air Systems Command

NDI - Non Destructive Inspection

NR- Non Rated

NSN - National Stock Number

O&A - Over and Above

OO-ALC - Ogden Air Logistics Center

OO-ALC/OBMT - Maintenance Training Flight

OSS&E - Operational Safety, Suitability and Effectiveness

OOT - Out of Tolerance

OPR - Office of Primary Responsibility

P&A - Price and Availability

PAC - Production Acceptance Certification

PAC/CD - Production Acceptance Certification Code

PACSS - Production Acceptance Certification Standard System

PAMS - PMEL Automated Management System

PAO - Public Affairs Office

PCN - Product Control Number

PCW - Previously Complied With

PDM - Program Depot Maintenance

PDMSS - Programmed Depot Maintenance Scheduling System

PMA - Portable Maintenance Aid

PME - Precision Measurement Equipment

PMEL - Precision Measurement Equipment Lab

PO - Process Order

POC - Point of Contact
PODDS - Process Order Development and Display System
POUS - Point of Use Station
PPE - Personal Protective Equipment
PPT - Production Planning Team
PPPT - Pre Production Planning Team
PS - Process Specification
PSC - Production Support Center
PST - Production Support Team
QA - Quality Assurance
QAE - Quality Assurance Evaluator
QAP - Quality Assurance Plan
QAR - Quality Assessment Rating
QAS - Quality Assurance Specialist
QASP - Quality Assurance Surveillance Plan
QIMSS - Quality Information Management Standard System
QMS - Quality Management System
QP - Quality Assurance Office
RADIAC - Radiation Detection Equipment
RCA - Root Cause Analysis
RCC - Resource Center Code
SAI - Satisfactory As Is
SCM - Supply Chain Manager
SH - Special Handling
SME - Subject matter expert
SOJT - Structured On the Job Training
SORAP - Source of Repair Assignment Program
SOW - Statement of Work
SRAN - Stock Record Account Number
SSQ - Special Skills Qualification
TAA - Time and Attendance
TBA - Training Business Area
TCM - Tool Control Manager

TCTO - Time Compliance Technical Order

TD - Technical Director

TDY - Temporary Duty

TI - Technical Information

TK - Tool Kit

TMDE - Test Measurement Diagnostic Equipment

TNB - Tail Number Bin

TO - Technical Order

TODO - Technical Order Distribution Office

TSS - Training Scheduling System

WAD - Work Authorization Document

WCD - Work Control Document

WG - Wage Grade

WI - Work Instruction

WL - Wage Lead

309 AMARG - Aircraft Maintenance and Regeneration Group

309 AMXG - Aircraft Maintenance Group

309 CMXG - Commodities Maintenance Group

309 EMXG - Electronics Maintenance Group

309 MMXG - Missile Maintenance Group

309 MXSG - Maintenance Support Group

309 MXSS/MXDVAC - Maintenance Support Squadron

309 SMXG - Software Maintenance Group

514 FLTS - Flight Test Squadron

571 AMXS - Aircraft Maintenance Squadron

Terms

Auditor: An individual who reviews NDT facilities and general procedures for compliance to NDT technical requirements.

Certification: A written statement by an employer that an individual has met the applicable requirements of this standard.

Chits: Numbered tags, manufactured of metal, plastic or some material not easily damaged, used to identify a person who borrows a tool from a tool kit or shadow board.

Closed Book Examinations: An examination administered without access to reference material except that provided with or in the examination.

Cognizant NDT Organization: The prime contractor or employer's organization recognized as being responsible for administering qualification and certification of NDT personnel.

Common Accessories: Items that may have multiple uses such as fittings, cables, adapters, etc.

Conductive and Static Dissipating Materials: These are ESD protective materials that prevent the generation of charge, and provide adequate static shielding to ESD items. Packaging materials or containers used for ESD control are typically conductive. Static dissipating materials are used for all other products (i.e., work surfaces, garments, footwear, flooring, etc.).

Consolidated Tool Kit (CTK): A Tool Kit (TK) consisting of a predetermined selection of tools used by a group of employees.

Consumables: Items used in conjunction with tooling and equipment, yet after limited usage do not maintain their original configuration and are used up. Examples are safety wire, solder, tape, sanding disks, string, chalk, etc.

Controlled Area: The work area (determined by the Group ESD Control Program Monitor) that uses ESD protective equipment to meet necessary requirements. The size of the controlled area can vary accordingly; it can be as large as an entire room, or as small as a single ESD workstation.

Custody Account/Custodial Receipt Listing (CRL): A listing of all authorizations, on-hand assets and due-outs for each custodian by organization code and shop code.

Direct Readout Instrument: Direct readout instruments physically display values either as digital readout or an analog display, such as a scale/pointer configuration. Direct readout instruments do not involve adjusting signal displays such as gates, delays, gain, or phase to obtain measurements.

Dispatchable Tool Kit (DTK): TKs designed for check-out, to be taken to a job site, with one individual responsible for the TK.

Documented: The condition of being in written or electronic form.

E & I: Evaluation and Inspection

E-Chit: Electronic signature used to identify a person who borrows a tool from a tool kit or shadow board.

Electrical Overstress: A transfer of current or an applied voltage level that exceeds a component's rating.

Electrostatic Discharge Sensitive: The relative tendency of a device's performance to be affected or damaged by an ESD event.

Employer: A government, prime contractor, sub-contractor, supplier, processor, or outside agency employing individuals performing NDT.

ESD: A transfer of electrostatic charge between bodies at different electrical potential caused by direct contact, or induced by an electrostatic magnetic field.

ESD Control Products/Protective Packaging: ESD items packaged in static-shielding and non-charge-generating materials.

Evaluation: A review, following interpretation of the indications Noted during an NDT inspection, to determine whether they meet specified acceptance criteria or to determine its significance.

Examination: Formal, controlled, documented testing conducted IAW a documented written practice to verify the candidate's knowledge of applicable NDT methods.

Expendable Bundles: Two or more like (same stock number) expendable items issued together in an effort to support workloads. (Ex. 10 ea. drill bits, 5 ea. apex bits, 5 ea. razor blades, etc.)

Expendables: Items that become unfit for use and must be periodically replaced. Examples include items such as, blades, apexes, drill bits, and reamers.

Experience: Actual performance or observation conducted in the work environment resulting in the acquisition of knowledge and skill. This does not include classroom or laboratory training but does include on-the-job training.

Faraday Cage: An electrically continuous conductive enclosure that provides electrostatic shielding.

FOD: Any damage caused by foreign objects to aircraft, engines, munitions, missiles, drones, space systems, support equipment, aerospace ground equipment, trainers or components thereof, that can be expressed in physical or economic (monetary) terms which may degrade the product, causing system or component malfunction, deterioration, or loss of life. All work centers performing maintenance on aircraft, missiles, engines, other major end items, or components thereof have a high potential for FOD.

Formal Training: An organized and documented program of activities designed to impart the knowledge and skills necessary to be qualified to this standard. Formal training may be a mix of classroom, practical and programmed self-instruction as approved by the responsible Level 3 or NANDTB.

General Examination: A written examination addressing the basic principles and theory of the applicable NDT method.

GOCO File Clerk: Contracted GOCO TODO employee responsible for filing and posting TOs and TO increments.

GOCO TODO: Government Owned Contractor Operated Technical Order Distribution Office

Hardware: Items that become part of the end product, such as nuts, bolts, washers, fasteners, screws, etc.

Indication: The response or evidence of a condition resulting from an NDT inspection that requires interpretation to determine its significance.

Individual Tool Kit (ITK): A standardized collection of tools organized by task, skill, work area, or a combination thereof issued to an individual.

Inspection: Official review or examination of each tool/item, e.g. the supervisor's 90-day inspections.

Instructor: An individual qualified and designated IAW this standard to provide training for NDT personnel.

Interpretation: The determination of whether indications are relevant or non-relevant.

Inventory: Periodic survey of all tools assigned to an individual, e.g. employee's daily inventories.

Locally Manufactured or Developed/Modified Tool (LM/MT): Any tooling that is altered from its original configuration or any tooling that is developed or manufactured locally.

Maxi Tool Kit (MTK): A mobile CTK used in controlled areas with a check-out/check-in document (AF Form 3126, *General Purpose,* or AF Form 3136, *General Purpose*).

Method: One of the disciplines of nondestructive inspection or testing (e.g. radiography) within which different techniques exist.

Modification Kit or Tools: Tools received as part of a Time Compliance Technical Order (TCTO) kit.

National Aerospace NDT Board (NANDTB): An independent national aerospace organization representing a nation's aerospace industry that is chartered by the participating prime contractors and recognized by the nation's regulatory agencies, to provide or support NDT qualification and examination services IAW this standard. Such services may include participation in certification.

On-The-Job Training: Training in the work environment in learning instrument Set-up, equipment operation, recognition of indications, and interpretation under appropriate technical guidance.

Outside Agency: An independent or national body providing training and examination of NDT personnel or any other NDT services to the requirements of this standard. Consultants and self-employed individuals are included in this definition.

Personal Equipment: Non-tool items that are necessary for the completion of assigned tasks such as M-stamps, date stamps, inkpads, pens, pencils, etc.

Personal Items: Technician's personal items such as rings, watches, wallets, necklaces, cell phones etc.

Personal Protective Equipment: Items such as goggles, hearing protectors, safety glasses, inclement weather apparel, etc.

Practical Examination: The examination used to demonstrate an individual's ability to conduct the NDT method that will be performed for the employer. Questions and answers need not be written, but a checklist must be used and observations and results must be documented.

Prime Contractor: An organization having overall responsibility for design, control and delivery of a system, component or product.

Procedure: A general or detailed written instruction for conducting a given process.

Production Support Center (PSC): PSCs controlled by the Special Tool Management Unit (574 AMXS/MXDPA). TCTO TKs and equipment identification numbering will be addressed within this document.

Production Support/Tool Issue Center: Areas authorized for storage and issue of tools, equipment, and TKs.

Qualification: The skill, training, knowledge, experience and, when applicable, the visual acuity required for personnel to properly perform to a particular level.

Quality Assurance Personnel (QAP): Personnel responsible to evaluate and document contractor's performance IAW the Quality Assurance Plan (QASP) and the PWS.

Quality Assurance Specialists (QAS): Personal designated by the group quality organizations to accomplish assessment/inspections of various products, processes and/or procedures.

Random Inventory Inspection: Separate from other scheduled inspections the inventory documentation (i.e. log book) is filed with the supervisor showing a month by month history identifying inspected TKs. As a minimum the inventory inspection is a quick survey of one kit accounting for tools, common accessories, containers, consumable items, expendable items and equipment assigned to a TK.

Responsible Level 3: A Level 3 designated by the employer with the responsibility and authority to ensure that the requirements of this standard are met and to certify qualified individuals.

SARDIP: Navy Stricken Aircraft Reclamation Disposal Project
Shadow: (For the purpose of this supplement) The process of lining a drawer with a foam material in which relief cuts are made in the shape of the items to be contained within the drawer (hammer, drill, screwdriver, etc.). Shadowing allows for quick assessment of tool inventory and easily identifies those tools that may be unaccounted for.
Shop Equipment: Any item used to adjust or operate equipment and may include accessory items.

Shop Machinery Accessories/Attachments: Items such as dies, fixtures, tool holders, chucks, end mills, shop aids (locally manufactured items used in conjunction with shop equipment to assist in the production of an end item or product), special machine tooling, end item unique items, equipment that may look like tools, but have been purchased or provided by manufacture.

Silhouette: (For the purpose of this supplement) The process of drawing/outlining the shape of an object.

Specific Examination: The written examination to determine an individual's understanding of operating procedures, codes, standards, product technology, test techniques, equipment and specifications for a given method as used by the employer.

Static Control Workstation: Consists of three components: an adjustable wrist strap cuff and ground cord, a common point ground system, and a static-free work surface.

Sub-Contractor: An organization responsible to the prime contractor for the manufacture or maintenance of aerospace products. For the purposes of this standard, this includes suppliers and processors.

Supplemental List: A list of all items stored in a TK not listed on the TKCRL. (**Note**: Personal items stored in the personal drawer, ITK, for one day do not need to be added to the supplemental list).
Support Equipment: Items that are used to aide in performing tasks such as droplights, extension cords, multiple air hose couplings, air hoses, etc.
Susceptible Items: Numerous discrete electronic parts, assemblies, and equipment items that are susceptible to ESD damage or degradation when an ESD event occurs or when exposed to electrostatic fields.

Task Oriented Tool Kits: A TK designed for a specific task.

Technique: A category within a method; for example, ultrasonic immersion testing or ultrasonic contact testing. Specific techniques within a method are defined by the cognizant NDT organization or NANDTB.

Template: A "master list" of tools specified as necessary for a certain

Test Samples: Parts or images containing known discontinuities or defects used in the practical examination to demonstrate the candidate's proficiency in using a particular method. Test samples can refer to images of actual hardware, such as radiographs.

TO Library: The official storage space location; the TO is alphanumerically maintained when not in use. For example a stationary cabinet, shelf, roll around cart and/or cabinet etc.

Tool: Any instrument/object used by hand to perform work on a weapon system, component, assigned equipment or facilities.

Tool Crib/PSC Tool Center: Tool cribs controlled by the Ogden Air Logistics Center Plant Management (309 MXSS/MXDVAC).

Tool Kit: A container used to store tools or equipment and to maintain positive control and ease of inventory.

Tool Kit and Tool Identification Number: A unique alphanumeric code of sufficient length to accommodate the current and proposed number of kits on an installation.

Tool Kit Custodian Receipt Listing (TKCRL): An inventory of all tools and other items in a tool kit. Includes the quantities, the kit ID number and the tool and item location, i.e. drawer or shelf.

Written Instruction: A procedure detailing the NDT technique and testing parameters used for the inspection of a specific component, group of parts (e.g. "aluminum extrusions" or "aluminum brackets"), or assembly. These are sometimes referred to as "technique sheets" or "data cards."

Written Practice: A procedure that describes the control and administration of NDT personnel qualification and certification.

Written: Retrievable electronic or hard copy.